Pakistan Archaeology

Number 7 — 1970-71

THE DEPARTMENT OF ARCHAEOLOGY
PAKISTAN

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Edited by

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FOREWORD

THE People's Government has ushered in a new era of hope, progress and prosperity in Pakistan. The Department of Archaeology and Museums has also received a new lease of life at the hands of its enlightened leadership and with renewed dedication, it is determined to contribute its share in the all important process of national reconstruction. The special programmes of the Department on which work has already started, include a thorough and scientific survey of the hitherto ignored archaeological wealth in Baluchistan and certain other regions of the country, large scale conservation of important national monuments like the Shalamar Gardens, mausoleum of Jahangir, tomb of Nurjahan, the Lahore Fort, Hiran Minar and Baradari, Riwat Fort, Attock Fort, Hyderabad Fort, mausoleum of Isa Khan Tarkhan, Dabgir Mosque, Khudabad Mosque, Mir's Tombs at Hyderabad and archaeological sites at Moenjodaro, Taxila, Takht Bahi, Swat etc., and development of museums as centres of research and visual education.

Although we hope to attain new heights in the field of archaeological researches in Pakistan and preservation of our cultural heritage, yet the achievements of the Department in the various fields of its activity have not been too insignificant in the past as well. The outstanding discoveries made at Kot Diji, Sarai Khola, Mainamati, Mahasthangarh, Banbhore, Mansura etc., are already well known. The special conservation works carried out at more than one hundred national monuments, establishment or development of eleven new museums and publication of more than forty scientific works and brochures are amongst the many other achievements of the Department during the past years.

The present issue of *Pakistan Archaeology* covers the research activities of the Department during 1970-71. It also gives an account of the efforts of the Department of Archaeology in preserving the cultural heritage of Pakistan which is well known for its leading contribution to the development of human civilization as a whole. We are thankful to Mr. Ahmad Nabi Khan, Editor of the Journal and his colleagues in the Publication Branch of the Department for their devotion and untiring efforts in bringing out this issue of the Journal and maintaining its high standard.

It is now with great pleasure that I introduce to the reader the present volume of *Pakistan Archaeology* which adds new pages in the field of archaeological and historical research in Pakistan.

(S. A. Naqvi, T.I.)

Director of Archaeology and Museums, Pakistan.

ACKNOWLEDGEMENT

WITH this issue of *Pakistan Archaeology*, we are entering into a new era of reforms and development. Like many other institutions in the country, the Department of Archaeology has also received a new outlook. The happy choice of Mr. S. A. Naqvi, T.I., to head this organization of international repute, is a most welcome recognition by the People's Government of his vast experience, both as a professional and an administrator. The fresh concept of scientific research introduced by him emphasises the need of covering the hitherto neglected or inadequately explored areas of archaeological interest throughout Pakistan, specially in the provinces of Baluchistan, Sind and the N.W.F.P. The schemes when executed and properly reported will reveal a new chapter of Pakistan's archaeology. Work on these lines has already started and the results will be published in the Journal in due course. We are certain that under the leadership of Mr. Naqvi, the activities of the Department of Archaeology will develop further and it will achieve a position of distinction in the scientific world.

This issue of the Journal has taken its present shape both in form and content, due to the ungrudging cooperation and help from the various officers and members of staff of the Department. The Editor is particularly thankful to those arhaeologists and scholars who have contributed to maintain the high standard of the Journal. Besides, thanks are due to Dr. M. R. Mughal, Assistant Superintendent of Archaeology, who revised the two articles included in this Journal under the section of excavations. Similarly, the constant help in bibliographical matters received from Mr. M. M. Baig, Librarian of the Central Archaeological Library, deserves a special reference. Thanks are also due to Sh. Khurshid Hasan, who shared the burden of the Editor in administrative matters to a great extent. Amongst the officials of the Publication Branch, the names of M/s. Masud-ul-Hasan, Nasimuddin, Karim Baksh, S. A. Bari, Qudrutur Rahman and from the Photographic Section M/s. S.A. Siddiqui, Saghir Mirza and Shakoor Mohammad need special mention for their hard work in the production of the Journal. The Editor would like to express his gratitude to them all. Mr. Muhammad Amin, Head Draftsman of the Department of Archaeology, prepared some of the line drawings and the drawing of colour plate III for the Journal. His admirable work is worth appreciation. Last but not the least our grateful thanks are due to the Printers, M/s. Jubilee Printing Works, who took great pains in producing the Journal well and in time.

EDITOR

Editorial

THE discovery of the pre-historic site at Sarai Khola near the world famous Buddhist seat of Taxila, was made in 1967. The epoch-making discovery has opened a new chapter in the history of pre-historic Pakistan. The results of excavations at this site have been compiled by one of our young archaeologists, Mr. M. A. Halim. The first part of his report dealing with the structural remains and description of a huge complex of pre-historic graves, is included in this issue. The second part which will deal with pottery and minor antiquities, will appear in the next issue. A report on the limited work carried out at the famous Buddhist site of Manikyala also throws light on the hitherto unknown aspects of the site and testifies previous results. Similarly, Mons. Casal's report summarises the results of his work at Pirak, done by him during the years 1968-70.

Preservation of ancient protected monuments is yet another important aspect of the activities of the Department of Archaeology. In the present issue, besides reporting the work of conservation of monuments carried out by the West Pakistan Circle of Archaeology, we are publishing two special articles. The leading article of this Section deals with the problems of conservation of the ancient monuments in East Pakistan. The writer, Dr. Nazimuddin Ahmed, former Director of Archaeology, explains the major causes of the deterioration and decay of these ancient buildings and suggests measures to be adopted for their preservation. The other article provides information on the delicate restoration work of the fresco paintings at the mosque of Maryam Zamani, Lahore. Besides the architectural description of the mosque, it gives a detailed

account of the process of execution of the fresco painting in the Moghul Period. Another article of interest deals with the history of the Beglars and theirgr aveyard. The Beglars were an important family of administrators and generals who served the local rulers of Sind during the 15th and 16th centuries A.D. and played a very prominent role in the socio-political activities of that period. The article gives a detailed history of this family and discusses the epigraphical records on their graves. It is for the first time that a detailed survey of this historic graveyard has been presented.

Ch. Rehmatullah, Archaeological Chemist in the Department provides interesting details of his scientific experiments carried out in his Research Laboratories at Lahore on the restoration of glass objects from Banbhore. A report on the National Museum of Pakistan similarly highlights the new experiments in projecting the national treasures for dissemination of knowledge and to serve as a basis for national integration. New techniques of display and treatment of museological problems have also been explained in the report.

We hope that the variety of articles presented in this issue will interest the reader as they provide the results of new researches carried out by the Department of Archaeology.

Ahmad Nabi Khan

EXCAVATION AND EXPLORATION*

[Plates I - III]

The Exploration and Excavation Branch carried out its normal work in the field of archaeological survey, exploration and excavation in both wings of the country, during the year 1969-70. A brief account of these activities is given here. The detailed reports on the important operations are under preparation and will be published in due course.

I. EXCAVATION

MAHASTHANGARH

The archaeological site of Mahasthangarh in the Bogra district of East Pakistan has been identified as the ancient city of Pundranagar[1]. It has been an important administrative centre of the Mauryas, Guptas, Palas and of various other dynasties between the third century B.C. and the sixteenth century A.D. The remains of the city now spread over an area of 5000 by 4500 feet.

As a result of successive years of excavation in the past, it has been possible to unfold gradually the history of the site. The significance of Mahasthangarh has been further emphasized by the discovery of important cultural material relating to the history and antiquity of northern Bengal. After establishing a chronological sequence of the settlement, efforts are now being directed towards amplification of each cultural period by horizontal excavation.

During the excavation season of 1969-70, the defence system of the city was further explored. By means of a series of trenches which were laid on the northern rampart and in the eastern corner, the fortification wall of burnt-brick

*Based on the notes received from the Superintendent for Exploration and Excavation.

1. For a preliminary report of the excavation of the site, see *Pakistan Archaeology no. 5*, 1968, p. 101 *sqq.*

has been exposed to a total length of 178 feet. The wall at the base measures 16 feet in width and survives to a maximum height of 6½ feet. Between regular courses of brick-work on both the inner and outer faces, the core is filled with brick-bats. However, the early Pala period wall reflects construction superior to the later (upper) wall built of re-used material. (Pl. I a)

A variety of small household objects have been found. They consist of beads of terracotta, glass, semi-precious stone, copper ornaments, iron and stone tools, animal figurines and a large number of pottery vessels, both plain and decorated. (Pl. I b)

MANSURA

Mansura, the first capital city founded by the Arabs in the plains of Sind in the beginning of the eight century A.D., was excavated for the third season during the winter months of 1969-70. Previously, architectural remains consisting of groups of residential buildings separated by streets, lanes and large open areas and a part of the defence wall with semi-circular bastions were brought to light[2]. The evidence of stratigraphy obtained at several points and the anti-quities collected from deep trenches have established four principal building phases of one continuous occupation period during the early Islamic times datable from the 8th to 12th centuries A.D.

An interesting feature of the lay-out of this Islamic city is the presence of wide open spaces (plazas) where the principal streets converge, around which large buildings are located. One such building, designated House No. 2, measures 370 by 196 feet. It overlooks an oblong plaza and is situated in front of an elaborate gateway system in the defence wall on the western side. In order to ascertain the purpose of House No. 2, further excavations were carried out both inside and outside the building. The house is enclosed by solidly built burnt-brick walls on all sides except on the east, from which direction a broad street runs towards it. The northern half of the house has revealed a complex of buildings divided by streets and lanes. The floors of the rooms and streets are paved with square brick tiles. Some hoards of coins have been recovered from the floors and one of them contained more than four thousand coins. Elsewhere, in the same building complex, a heap of shell pieces, both worked and plain, were found. The available evidence would suggest that

2. *Ibid* p. 168 *sqq*.

House No. 2 was probably located in a commercial centre. Outside, heaps of rubbish have been dumped along the boundary wall. Close to the western wall facing the plaza and the gateway, numerous sun-dried sling balls were unearthed, lying scattered over a large area. Further excavations are expected to throw more light on the local architectural styles in vogue during the early Islamic period, the nature and possible function of these buildings, and their relation to other structures of the city (Pl. II a, b & c).

SARAI KHOLA

Two winter seasons of excavation during 1967 and 1968 at Sarai Khola near Taxila have revealed structural remains and tools of a small pre-historic settlement[3]. The evidence indicates that the earliest occupation at the site, designated Sarai Khola I, is assignable to the end of fourth millennium B.C. It was followed by the Kot Dijian culture of the early third millennium B.C., already known from the type site in southern Sind and other sites in the Punjab and Sind. The occupation was uninterrupted for some centuries until about the second millennium B.C. or later and the site was used as a cemetery, of which two strata have been identified.

During the third excavation season of 1969-70, early occupations called Sarai Khola I (Late Neolithic) and Sarai Khola II (Kot Dijian) were further investigated. The diggings of the earliest levels, however, remained limited in extent, but in the Kot Dijian levels II, regular structures of undressed stones consisting of two to four courses have come to light. The associated floors are made of earth in which two post-holes, each measuring one foot and eight inches in diameter were identified. It is very likely that the roof of the exposed building was originally supported on wooden posts. Successive occupation levels and the use of stone in structures attest to a permanent human occupation. The ceramic forms show little change during the main Kot Dijian occupation of Sarai Khola II. However, in the earliest levels (Sarai Khola I), the pottery is generally thick-textured and highly burnished. It consists of red wares, both hand-made and wheel-made. The principal forms of pottery in Sarai Khola II (Kot Dijian) levels consist of (i) globular vessels of red ware with short neck, usually bearing a wide painted band around the neck, and sometime a series of horizontally drawn grooves on

3. Ibid, p. 28 *sqq.*

the external surface; and (*ii*) bowls with flaring sides, decorated on the inner side and near the rim with multiple black horizontal lines.

Abundant stone blades of various sizes come from the earliest levels of Sarai Khola along with stone celts of cylindrical shape and bone points. Similar stone celts and parallel sided chert blades also persist in the subsequent levels II. Terracotta bangles of simple and conjoined type, stone chisels, beads of stone (lapis lazuli) terracotta and shell have been found in association with Kot Dijian pottery.

The Kot Dijian occupation seems to have terminated at Sarai Khola about the middle of the third millennium B.C. The circumstances or reasons for abandonment are not yet known. However, after a lapse of considerable time, perhaps a millennium or more, the site was used as a burial ground by some unknown people. Preliminary study of the skeletal remains suggest that the two strata of the cemetery at Sarai Khola (level III) might be associated with the Iron Age cemetery of the North Western Frontier Province, known so far from Timurgarah and Swat[4].

More than ten dozens human skeletons have been brought to light. They are without grave equipment and there is no evidence of an elaborate burial chamber. Instead, the dead have been disposed of in ordinary grave pits and then covered over with earth. The graves are indicated by the presence row of of stone on the head and feet sometime with a single or double undressed stones.

The site was re-occupied much late in the historic period. Fragmentary structural remains of stone, associated with red wares represent the last occupation level designated Sarai Khola IV.

SIALKOT

Some terractotta sculptures were accidentaly discovered in a mound located about a mile west of Sialkot in the Punjab. In order to determine the character and length of occupation, a few test pits were dug on the mound. The structural remains thus exposed and antiquities recovered were not sufficently large in number and significant in character. They, however, indicate

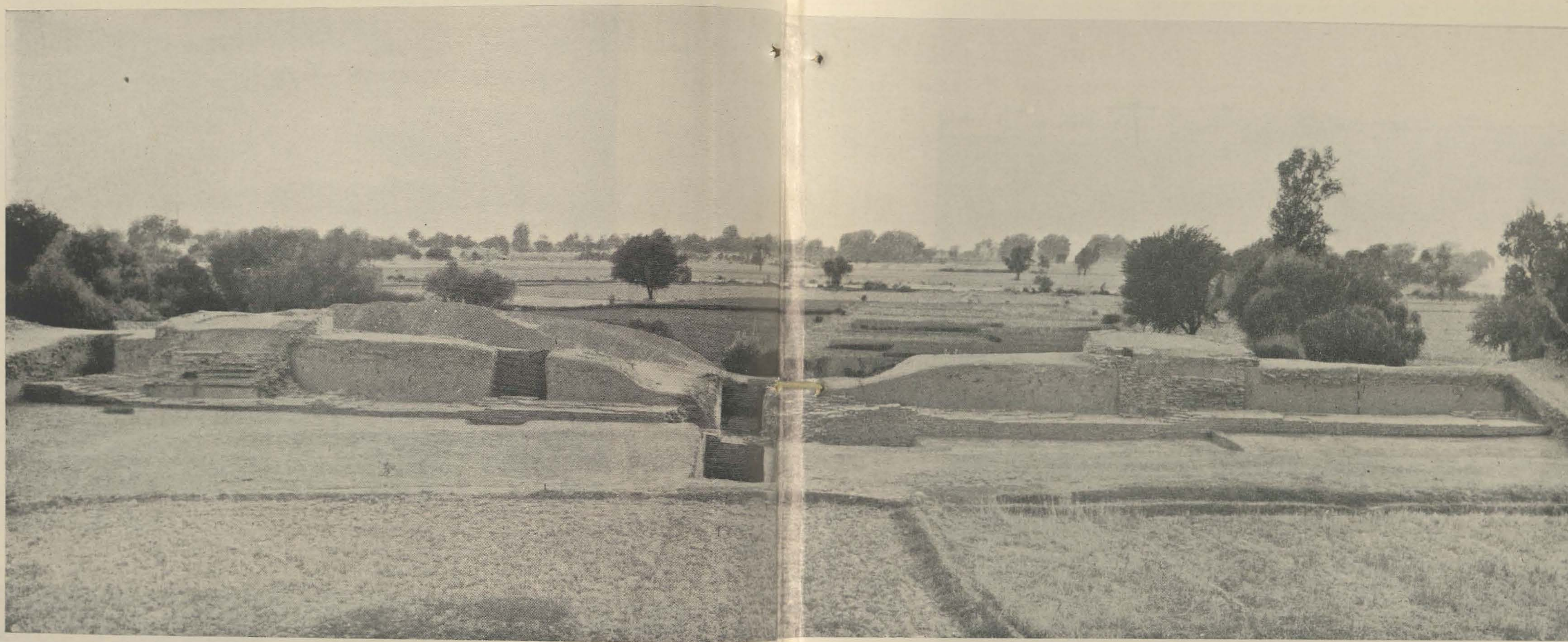
4. Wolfram Bernhard, "Preliminary report on the human skeletal remains from the pre-historic cemetery of Sarai Khola", in *Pakistan Archaeology* no. 6, 1969, pp. 100-115,



a. Mahasthangarh : exposed defence wall showing two- period construction. View from south-east.



b. Mahasthangarh : close view of a complete pot '*in situ*' with eastern section from west.



a. Mansura : the defence wall with semi-circular stions as seen from the inner side of the fortified city.



b. Mansura : the north western gateway paved with brick-on edge.



c. Mansura : sling balls of unbaked clay lying outside House No. 2.



a. Thekal : general view of mound no. 3 from north-west.



b. Thekal : unauthorized digging in progress at mound no. 3. View from south-west.

that the site marks a Buddhist establishment, approximately datable from the 3rd to the 6th century A.D.

II. EXPLORATIONS

AROUND TARBELA

Owing to the construction of the Tarbela Dam, a number of archaeological sites near Tarbela were threatened to be submerged. The Department of Archaeology decided therefore to survey the area and a joint team consisted of Dr. A.H. Dani of the Peshawar University, and Mr. M.A. Halim, Field Officer of this Department, undertook the work. The party visited the sites named Ghazi, Sukho Dheri, An Kot and Tarpakhi located on the left bank of the Indus, on the Haripur-Hattian road. The sites thus recorded belonged to the medieval period, about the 10th-16th centuries A.D. or even later. Among them, the site of Tarpakhi was marked by an extensive settlement, partially eroded by the Indus river. The occupational deposit is about two feet deep.

THEKAL NEAR PESHAWAR

A group of ancient mounds about four miles west of Peshawar on the road to the historic fort of Jamrud was recently explored. The total area covered by the site is about half a mile across and the maximum height of the mound is about 13 feet. The local villagers have been digging into the mound for unauthorised collection of antiquities. A large number of broken pieces of Gandhara sculptures were thus collected and removed. The site represents a Buddhist establishment of about the 3rd to the 5th centuries A.D. (Pl.III, a & b).

EXCAVATION AT MANIKYALA—1968

by

Saifur Rahman Dar

[Plates IV - VII. Fig. 1 to 4]

MANIKYALA is a fairly large village comprising about 800 houses. Its exact bearings are 33°-30′ North and 73°-20′ East. It is situated a little off the main highway (Grand Trunk Road), sixteen miles southeast of Rawalpindi. A few hundred yards south of the village stands Manikyala *tope*, a gigantic Buddhist stupa on the crest of a high ridge. The stupa is conspicuously visible from miles away. Manikyala village, itself, is situated on an ancient mound which most probably marks the site of the legendary Manikpur or Maniknagar. More than 60 per cent of the houses of Manikyala are built of ancient material dug from the soil. At present, ancient walls built of huge blocks of lime and *kanjur* stones, criss-cross the whole village. To the north and south of the village, many ancient walls, built of both round and square stones are still to be seen.

Manikyala village and the great stupa are not the only archaeological remains surviving there. In fact, a large tract of country, covering an area of six square miles, around Manikyala village is littered with ancient sites mostly of the Buddhist period. Among these sites, the most conspicuous is the famous stupa 92 feet high once regarded as one of the four great stupas of the region now comprising the northwestern part of West Pakistan.

In the popular legends ascribed to one Raja Rasalu, Manikyala is referred to as Manikpur or Maniknagar. It is thought to have been the seat of the residence and power of demons or *Rakshasas* who were eventually killed by Raja Rasalu. As a seat of Rakshasas, Manikpur was also called *Bedadnagar* or the City of Injustice[1]. The local traditions, persisting even today, are precisely those which were recorded by Cunningham, a hundred years ago[2]. According to these traditions, this city was founded by one Raja Man or Manik who is also believed to have built the great stupa. Manikyala is also associated with one of those places "that strive for the honour of being the burial place of Alexander's horse Bucephalus[3]."

The tradition of Manikpur may have some truth because during the third quarter of the last century. Alexander Cunningham discovered, in a small stupa located east of the village Manikyala, a coin of the satrap Zeionises, son of Manigal[4] who might have reigned over Chukhsa territory during the time of the Parthian king, Gondophares in the beginning of the Christian Era[5]. On this evidence, the site may be dated to the time of Manigal, or his son Jihonia about the early Indo-Scythian period. On the other hand, if we accept Cunningham's identification of Manikyala with the site of the famous Vyaghri (Tigress) Jataka or the "Body Offering", then it may be dated to the middle of 3rd century B.C. falling during the reign of Asoka. However, the association of Manikyala with Asoka seems to be nothing but a legend which has yet to be proved by conclusive evidence.

The Chinese pilgrims who visited Manikyala have not mentioned its name. Hiuen Tsang, visiting in 630 A.D., gives only the estimated distances at which a big religious establishment containing the stupas of "Blood and Body Offering" were located, but he does not mention its name. According to Hiuen Tsang,

1. This however seems improbable for the reason that the word is a combination of Persian and Hindi languages, a tendency which developed much later [Editor].

2. Cunningham, Alexander, *A.S.I.R.* (Simla, 1871) vol. ii, p. 152; *Punjab District Gazetteers, vol. XXVIIIA. Rawalpindi District* (Lahore 1909), p. 34.

3. *Gazetteer of Rawalpindi District, op. cit.*, p. 34. There is however no basis, historical or circumstancial, to associate Manikyala with the burial place of Alexander's horse. According to the Greek historian Arrian, Alexander's horse "Boukephales" died of fatigue and old age at a place where Alexander started to cross the Jhelum to attack Porus, *Anabasis*, V. XIX. 4. Sir Aurel Stein identified the place of crossing with the modern town of Jalalpur, situated seventy miles south southeast of Rawalpindi in the Pind Dadan Khan tehsil of Jhelum district. For full discussion, see *Archaeological Reconnaisances in North-Western India and South Eastern Iran* (London, 1937), map facing page 16 and pp. 9-23 *Passim.*

4. *Op. cit.*, (Calcutta 1882), vol. XIV. p. 5.

Marshall, Sir John, *Taxila* (Cambridge, 1951), vol. I, pp. 48 and 55.

this religious establishment (of Manikyala) is located southeast of Takshasila across the river Sin-Tu[6] where:

> "Long ago the prince Mahasattva gave up his body to feed a hungry tigress. About 140 paces from this was a stone tope at the spot to which Mahasattva pitying the wild beast's feeble state, came here piercing himself with a dry bamboo, he gave his blood to the tigress, and she after taking it ate the Prince; the soil and the vegetation of the spot, had a red appearance as if blood-dyed. Travellers suffering from the wild thorns of the place whether they are believers or sceptics, are moved to pity?" [7]

Yuan Chuang (Hiuen Tsang) further adds:

> "To the north of the Body Offering Tope was a stone Asoka Tope above 200 feet high with very artistic ornamentation and shedding a miraculous light. Small topes and above 100 small shrines encircled the grave; pilgrims afflicted with ailments made circumambulation, and many were cured. To the east of this tope was a monastery with above 100 bretheren all Mahayanists." [8]

The stupa, as described by Hiuen Tsang, has also been identified by Cunningham with the stupa at Manikyala. He also identifies the monastery referred to in the above passage with a mound now covered by the Muslim graveyard, situated a few hundred yards east of the main stupa. The latter place is now called Hattian[9]. It may be added that the tradition of recovery from ailments by making circumambulation around the stupa is still in practice in a different form. Some two hundred yards southeast of the stupa and near an ancient well, there is a *Ziarat* of a Muslim saint, known as *Tope-wala pir*, or "the saint of the stupa", who is venerated for his miraculous power of healing human ailments.

Fa-Hien also visited Manikyala in about 402 A.D. He places the scene of "Body Offering" and the site commemorating the event at a spot reached

6. Cunningham identified river Soan (in place of Indus) as Sin-Tu. He identified these stupas with General Court's Stupas No. 2 and No. 5 near Mara-di-Dheri two miles to the northeast of the great Manikyala stupa. See *A.S.I.R.*, vol. II, p. 158

7. Watters, Thomas, *On Yuan Chwang's Travels in India*. (London, 1904), vol. I, p. 253.

8. *Ibid*, p. 255.

9. Cunningham, A, *op. cit.* vol. XIV, p. 2.

after two days journey (on foot) east of Takshasila. Sung-Yun, on the other hand, places the spot at eight days journey to the southeast from the capital of Udayana, but he does not mention any stupa[10].

PREVIOUS EXPLORATIONS

The identification of Manikyala stupa and some monastic remains with the tradition of "Body Offering", as recorded by Cunningham, is however based on the explorations carried out on different occasions. Many years before, some exploratory trenches were sunk into the stupa, its great size and shape having excited the imagination of some European travellers. On July 21, 1809, Elphinstone, on his way back from Kabul, noticed the stupa and thought it a piece of Grecian architecture. Recording a local tradition, he adds: "The natives call it the tope of Manuicyaula and said it was built by the gods[11]." Moorcraft and Trebeck, visited Manikyala stupa on November 18, 1822 and wrote "It has much great resemblance with the monumental structures of the Tibetans[12]."

General Ventura was, however, the first to dig a 73 feet deep shaft in the centre of the great stupa in April 1830. The first principal deposit was revealed at the depth of over ten feet from top. It consisted of an iron box containing a smaller one of gold with an ornamental top. The gold box contained among other objects, a silver coin of Abdullah bin Hazin, the governor of Khorasan, struck at Merv and dated 66 A.H./685 A/D.; one silver coin of Yasovarman of Kanauj (c. 692-736 A.D.) and two coins depicting the sun-god of Multan (c. 600-700 A.D.)[13].

The second principal deposit, between 45 and 64 feet, contained gold and copper objects with three Sassanian coins mixed with those of the Kushan rulers. Further downwards, at 73 feet depth, a small box of gold was lying inside a copper box. It contained one gold and five copper coins of the Kushan rulers.

10. Watters, Thomas, *op. cit.*, vol. I, p. 255.

11. Elphinstone, Mount Stuard. *An Account of the Kingdom of Caubul and its dependencies* (London, 1815), pp. 70, 79-80.

12. Moorcraft, *William* and *George* Trebeck *Travels in the Himalayan Provinces of Hindustan and the Punjab etc.* (London 1841), vol. i, p. 311.

13. General Ventura's excavations were first published by Wilson in *J.A.S.B.*, 1834 *sqq.* The account was consolidated in James Prinsep *Essays on Indian Antiquities.* (London, 1858), p. 90 *sqq.*

Huvishka and Kanishka[14]. The inference would be that the original stupa was constructed during the time of Huvishka and it was re-constructed in 720 and 730 A.D. by Yasoverman of Kanauj who did not remove the old coins[15].

In 1834, General Court explored the surrounding area and excavated fourteen different mounds located north of Manikyala. From one, he discovered an inscription mentioning Huta Murta or "Body Offering" twice. This is the same stupa mentioned by Hiuen Tsang, reportedly erected on the spot where "Prince Mahasattva gave up his body to feed a hungry tigress". Cunningham visited Manikyala thrice during the years 1863, 1872 and 1878. During his three visits, he explored and mapped the whole area containing ancient remains. At several sites, he observed extensive signs of burning. At Sonala Pind, he discovered a coin of Zeionises or Jihonika who has been regarded as the possible founder of Manikyala or Manikpur. The outstanding find was a model stupa of stone 8½ inches high and 4½ inches in diameter at the base, bearing a striking resemblance to the great stupa of Manikyala. One of the coins found inside the model stupa had a legend meaning "Of the great king, the king of kings, Kajula kara kadphisis". On the evidence of the coins, Cunningham dated the small stupa and other remains to the 1st century A.C. At one of the sites he discovered bronze sculptures only while at Munshian-da-Mahel, a few heads of Buddha were found.

Regarding the great stupa at Manikpur or Manikyala, Cunningham satisfied himself with the work done by Ventura. He only cleared some area around the main stupa in order to complete the measurements[16].

He also records that the stupa was originally built with sandstone. During the time of Yasovarman, it was enlarged and repaired with blocks of *kanjur*

14. The chronology of Kushan dynasty, especially that of King Kanishka, is one of the most controversial topics of the history. It has already been the topic of more than two international conferences without arriving at any unanimity. For the results of the two conferences held in London see J.R.A.S., 1913 and A.L. Basham, (ed.), *Papers on the Date of Kanishka*. London 1960, Leyden, 1968. For the brief report on the Kushan Conference in Dushambe (Russia), by Guitty Azarpay see *Archaeology*, vol. 23, No. 3, 1970, pp. 254-257.

Four different dates are usually put forth for the accession of Kanishka-58 B.C.; A.D. 78; c. A.D. 100 and second century A.D. Now-a-days the question seems to lie between A.D. 78 and 128. Many scholars, however, prefer to refer to reigns rather than dates. The order of succession of Kushan dynasty usually accepted is: Kujula Kadphisis, Vima Kadphisis, Kanishka, Vasiska, Huvishka, Kaniskha II, Vasudeva II, Kanishka III etc.

15. Cunningham, A. *A.S.I.R.* (Calcutta, 1875), vol. V, pp. 77-79. The reason given by Cunningham for the mixture of gold coins of different periods is however not supported by our excavations.

16. He records the following measurements: Raised terrace, 18 feet 9 inches around; cylindrical neck, 15 feet high; diameter at the base 127 feet 9 inches; and total height, 92 feet and 3½ inches, c.f. *A.S.I.R.*, vol. V, p. 79.

stones. This feature of repairing the masonry wall of sandstone with squared blocks of *kanjur* stones has also been observed in our recent excavations at Manikyala, though the date assigned to the use of different types of building material is open to question. Cunningham did not touch the high mounds located east and west of the great stupa which could have produced some information regarding the nature of cultural accumulation around the stupa.

MANIKYALA AND ITS PROBLEMS

After Cunnigham, neither the main stupa nor any other mound around Manikyala was investigated. The information available from the limited explorations done by Court, Ventura and Cunningham raised in fact, many chronological questions of vital importance, such as the date of the great stupa and its connection with numerous local shrines, chapels and monastic buildings. It was with a view to obtaining a cross-section of the high mound near Manikyala stupa and to collect information regarding its cultural contents that a limited excavation was carried out at the site in June 1968. It was hoped that stratigraphic digging would produce new information which might help solve some of those problems.

EXCAVATION

Around the main stupa (Pl. IV a), a number of high and low mounds are located but the mound now occupied by the Manikyala village is the highest (Pl. IV b). The next highest mound, located east of the stupa, is called Hattian, but it is now completely covered with the Muslim graves. The difficulty in conducting excavations at either of these two mounds was obvious. Another high mound, situated 150 feet northwest of the western staircase of the stupa, was therefore selected for digging. It is roughly oval in shape and measures 185 feet from east to west and 230 feet from north to south and stands 8 to 10 feet above the surrounding fields. There were some other considerations also for selecting this spot for excavation. First, the area was very close to the main stupa and as such, we hoped to uncover the remains of some stupas, chapels or shrines. Secondly, there was a great concentration of pottery on the mound, a feature which distinguished it from other mounds. Thirdly, there were local reports regarding the chance discovery of pottery vessels containing charred wheat, gold ornaments, blocks of stones, etc. It may be added that Cunningham records a local tradition

according to which this place is associated with the palace of Raja Manik, the legendary founder of Manikyala[17].

PLAN OF EXCAVATION

A long trench, measuring 10 feet wide and 30 feet long, was laid in an east-west direction but the appearance of structures necessitated extension of the area at western end. Thus, at one end the trench measured 20 feet wide, making it T-shaped. The excavation was carried down to 8 feet 5 inches measuring from the highest point of the mound, while in the extended area at one end, the trench was dug down to the virgin soil which was reached at the maximum depth of 16½ feet.

STRUCTURAL LEVELS AND STRATIGRAPHY

Our attempt to obtain the cross-section of the mound and to establish a relative sequence of occupation levels was successful. Despite the limited area of excavation, the structural remains and associated material, consisting mostly of ceramics, afforded evidence of two distinct (cultural) periods, separated by a short period of abandonment of the site. Among sixteen occupational deposits identified from the top, layer 1 to 6 represented one major period. These deposits were preceded by a wide-spread fire on the site, leaving concentrations of ashes, charcoal, reddened earth and mud plaster. The occupations lying below the burnt layer 8 and down to the eldest layer 14 (above the virgin soil), marked the first major occupation period on the mound under investigation. The ceramic group recovered between layers 14 and 8 differ from those of layers 6 to 1, and are designated respectively Period I and II. In spite of the homogeneous material of Period I and II, there were, however, some phases marked by reconstruction in each Period. (Pl. VI)

PERIOD I

The first occupation immediately above the natural soil was recognised at a total depth of 16½ feet below the existing surface of the mound or 9½ feet

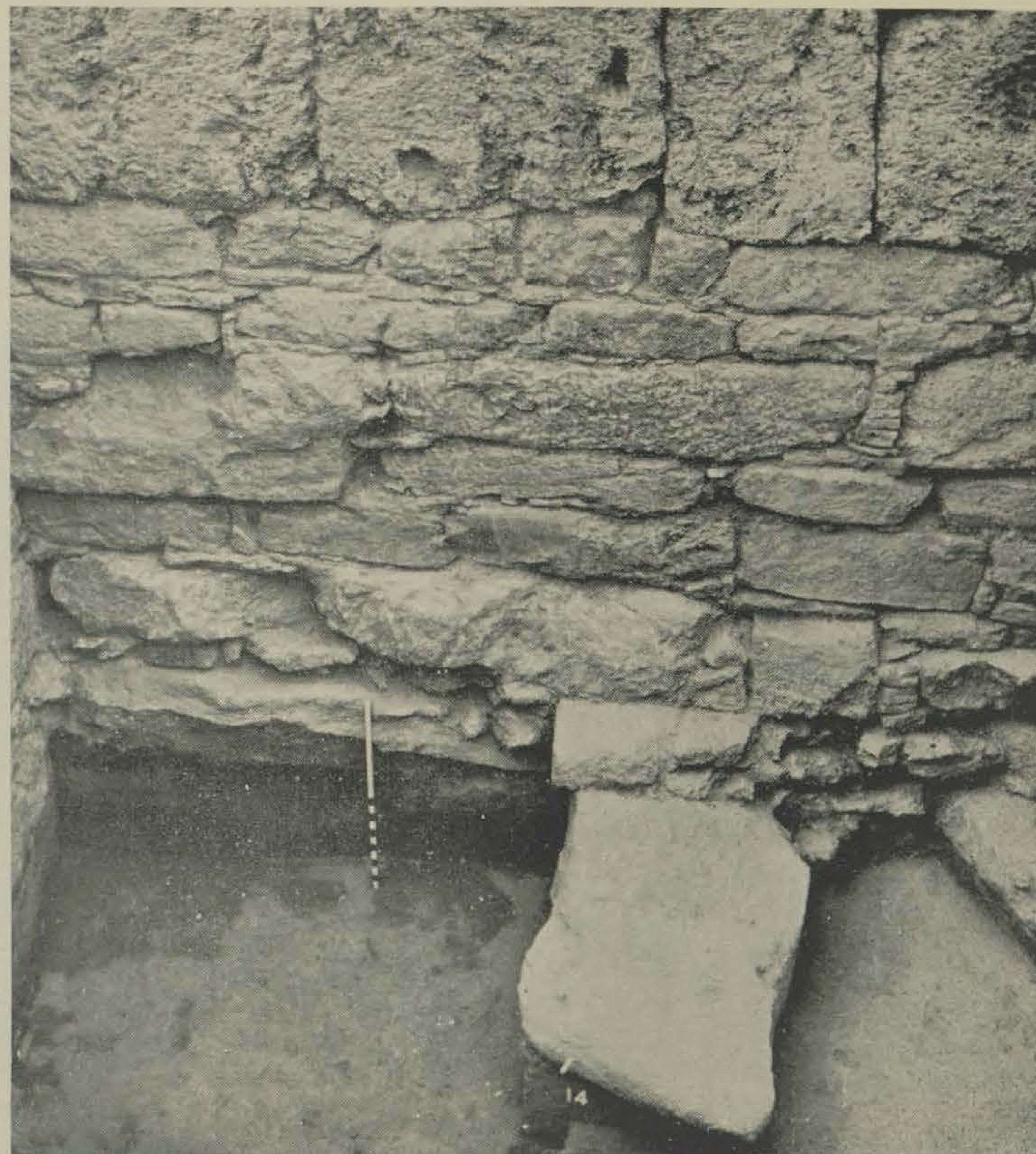
17. Cunningham, A. *A.S.I.R.*, vol. ii, p. 157.



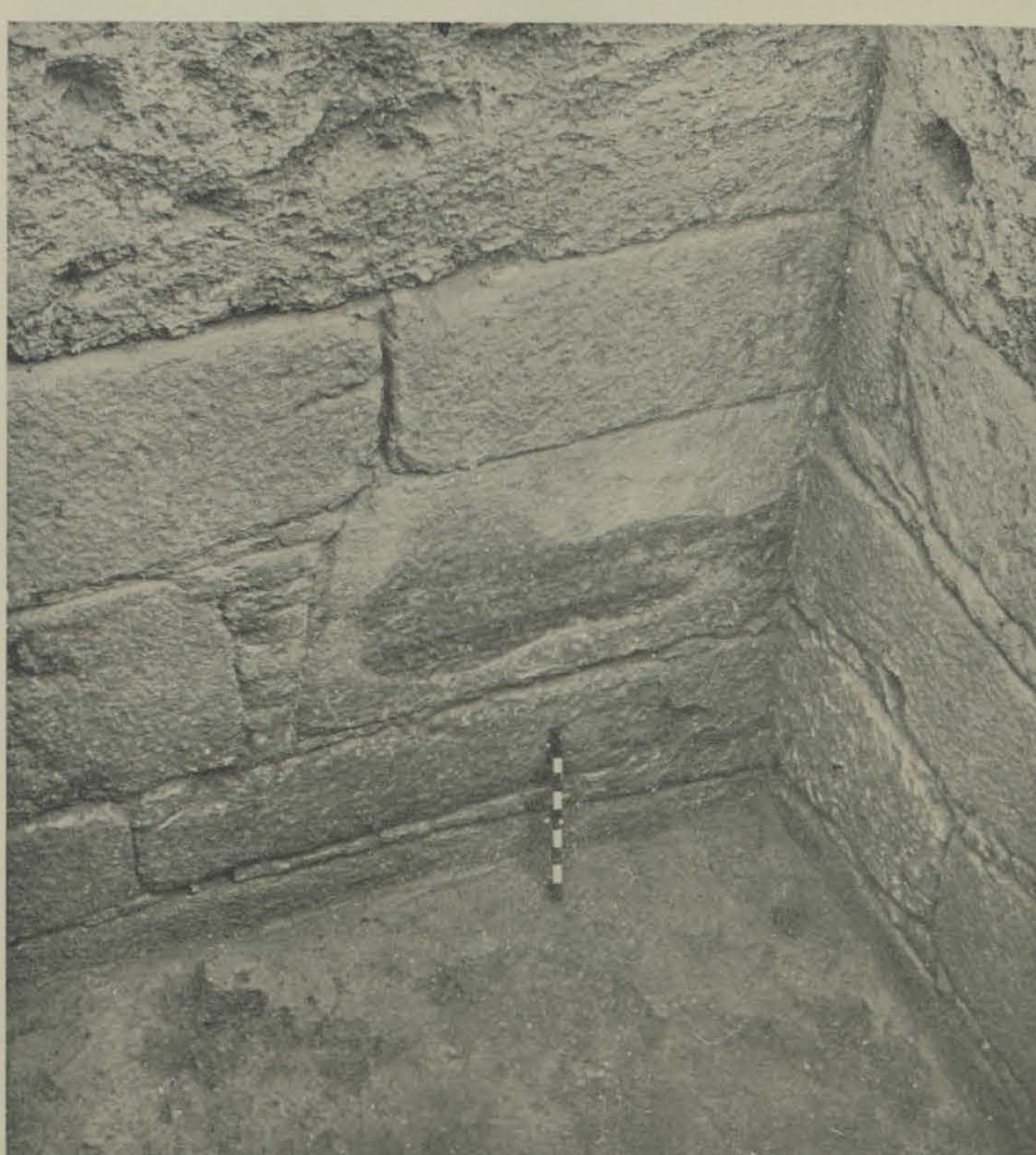
a. Manikyala: The main stupa, view from north-east.



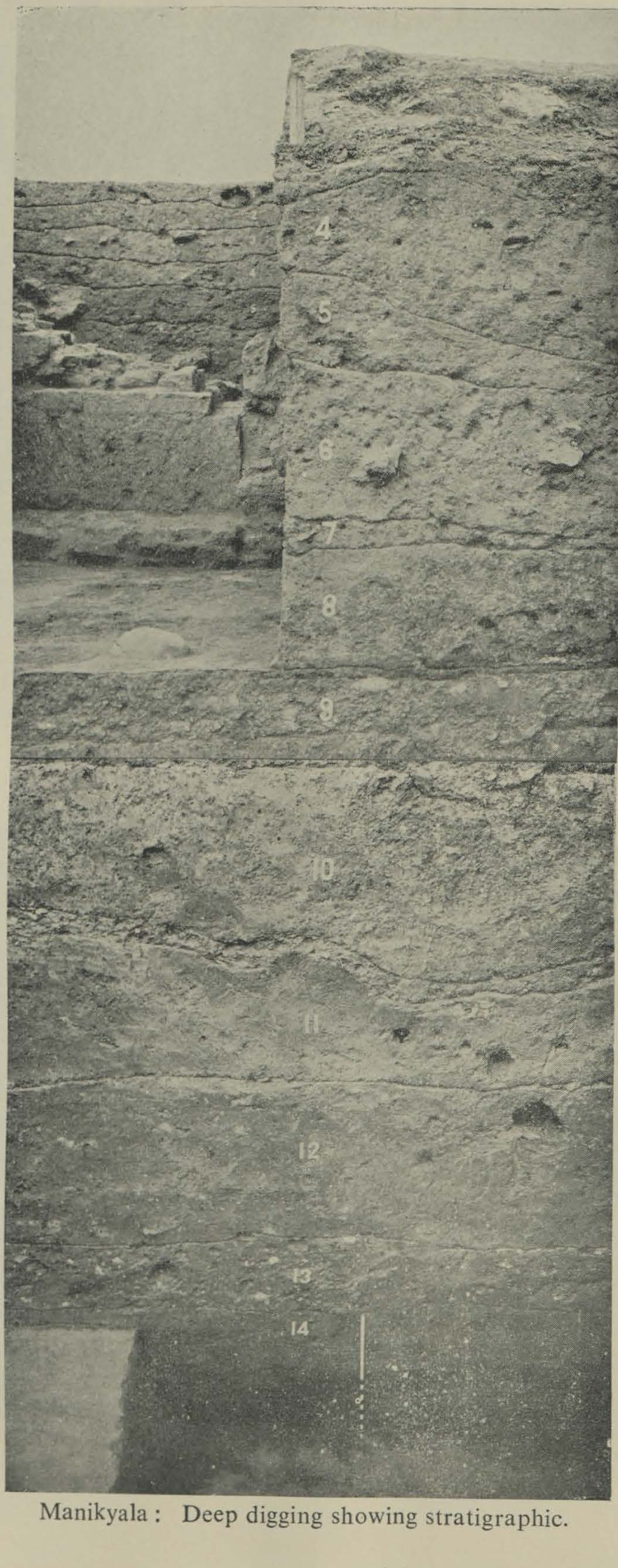
b. Manikyala: General view of the mound from south-west.



a. Manikyala: Structures of period I showing different masonry styles.



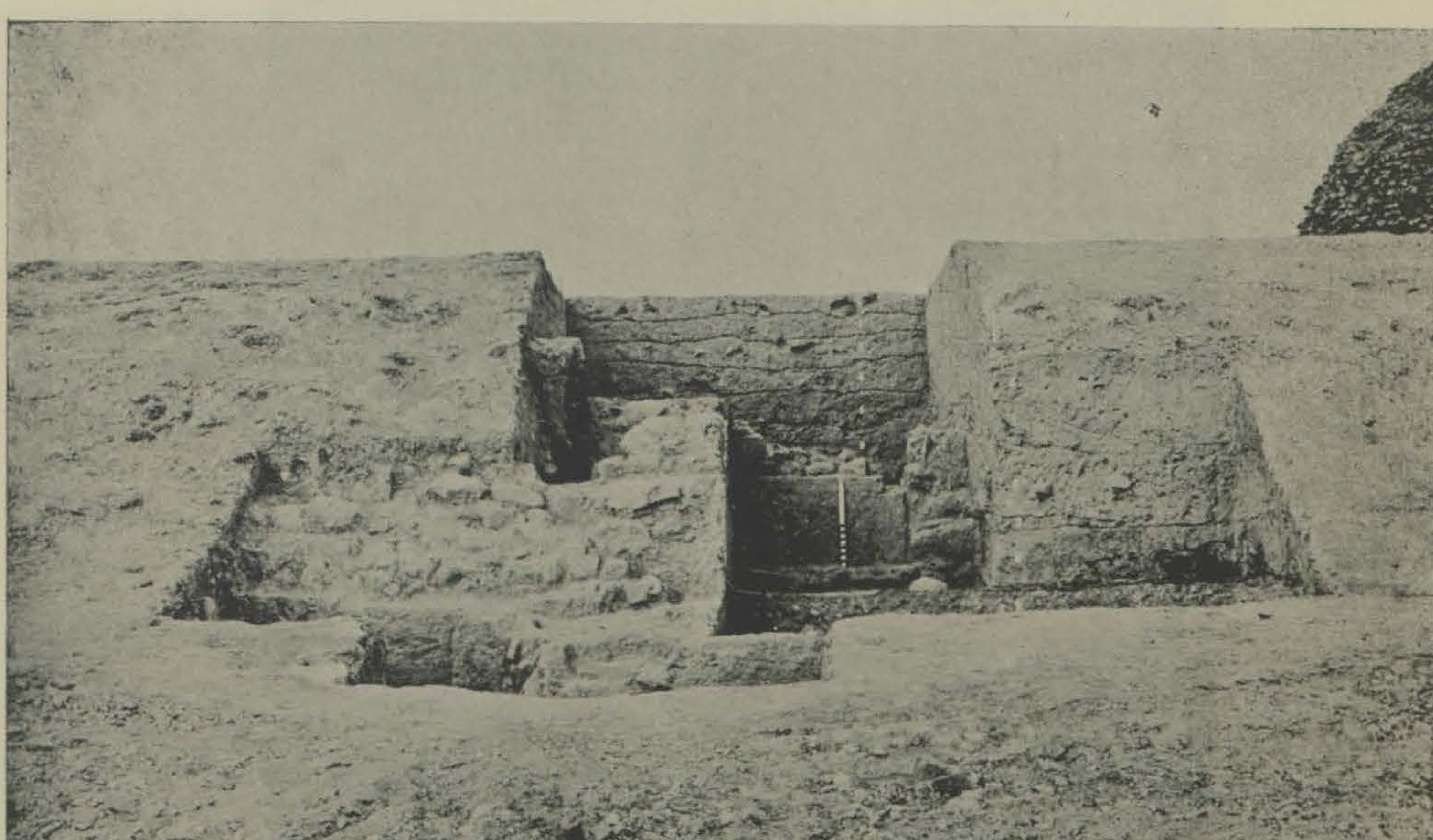
b. Manikyala: Masonry style of period I.



Manikyala : Deep digging showing stratigraphic.



a. Manikyala. A burnt frame of window on the floor.



b. Manikyala. General view of the excavated trench from west.

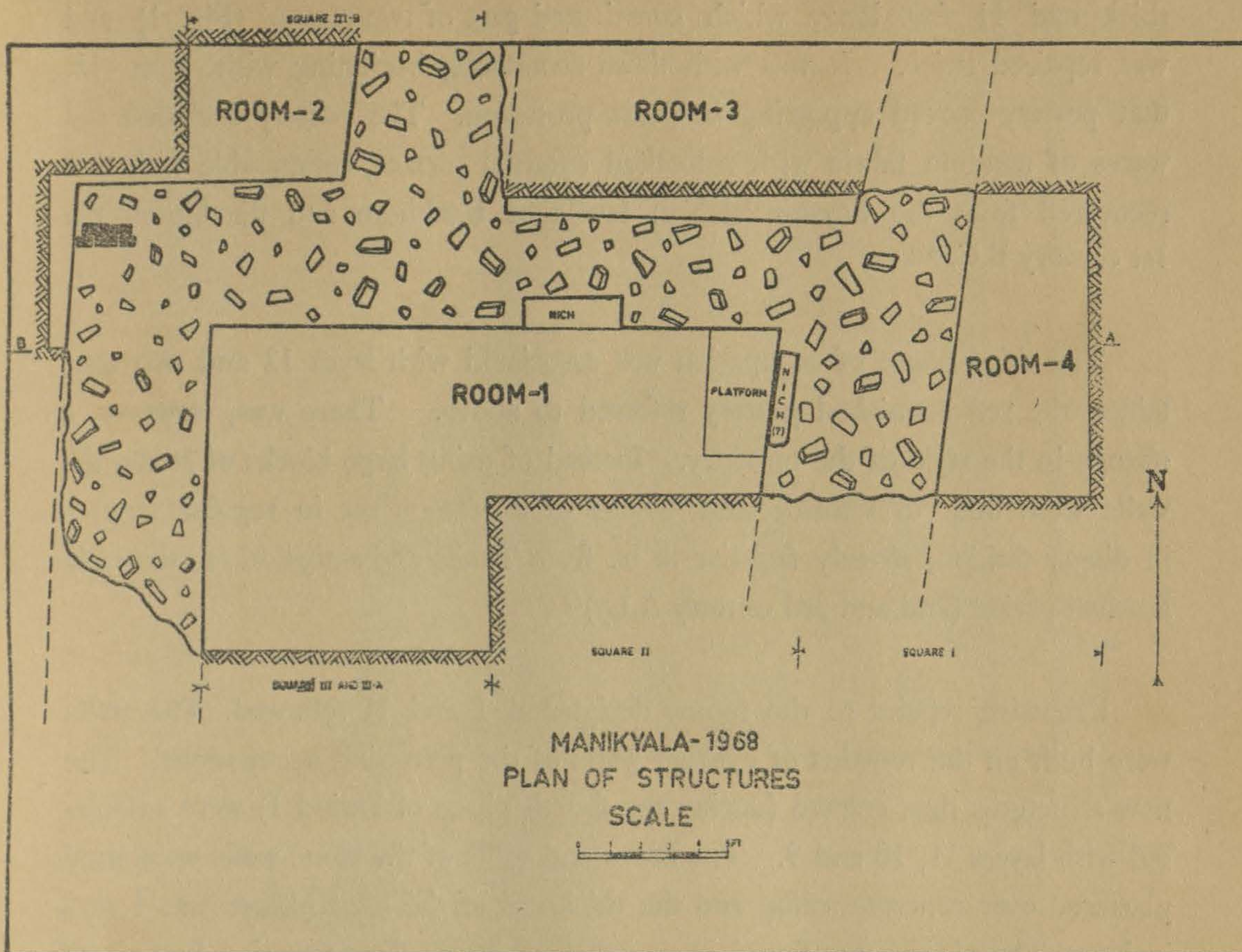


Fig. 1

below the surrounding level. There were no structures in the small area excavated but an upper part of a jar, measuring at the neck 9½ inches in diameter, was found on a mud floor associated with a fire-place nearby in layer 14.

The second phase of occupation was marked by a massive structure built of large blocks of sandstone. The complete plan of the building was not available, but the character of the masonry together with reconstruction and additions, indicated the existence of an important building, probably of a public nature (Pl. V a & b). The total thickness of the deposits associated with the building complex was 5½ feet in which three layers 13, 12 and 11, were identified. Each layer was associated with a phase of reconstruction or repair of the building. The occupation was continuous although there was a stone wall, 4 feet 8 inches

thick and 11 feet long, which constituted part of two rooms (Fig. 1) and was repaired twice. It was with these structures, beginning with layer 13, that pottery started appearing in great profusion. The pottery included red wares of medium fabric with smoothed external surface, comparable with that recovered from the Scytho-Parthian levels of Banbhore and datable to the 1st century B.C.[18]

The third phase of occupation was associated with layer 12 and also contained the red burnished pottery referred to above. There was, however, a change in the style of the masonry. Instead of using large blocks of stone, the walls were built of semi-dressed blocks of sandstone set in regular courses in diaper fashion, already familiar to us from Taxila and assignable to the early Kushan period (2nd and 3rd century A.D.)[19]

Extensive repairs to the rooms designated I and II followed. The walls were built on the remains of existing walls of the preceding occupations. The new structures thus erected (during the fourth phase of Period I) were associated with layers 11, 10 and 9. The floors and walls of the stone walls were mud plastered over concrete soling and the thickness of the mud plaster was 1 to 2 inches. The plaster was found in an excellent state of preservation because of widespread firing that was evident by the reddened earth and piles of charred remains lying on the floor.

The burning was not of localized nature but was widely spread so as to affect the whole building complex on the site. On the reddened earth floor of Room I, was lying the charred frame of a window, obviously fallen from the wall (Pl. VII a). The frame measured 3 feet 7 inches wide. The wood used in the frame was 3 to 4 inches square. Numerous iron nails, clamps and hooks (probably of the roof) were also found in the burned material constituting layer 8. Among the heaps of ashes and lumps of charcoal were found gold and mica sheets of different shapes, probably used to embellish the wooden fittings of the rooms.

18. F.A. Khan, Banbhore: *A Preliminary Report on the Recent Archaeological Excavations at Banbhore*, Karachi. Department of Archaeology & Museums (Third Edition, 1969) p. 34.

19. Marshall, Sir John, *op. cit.*, vol. I, p. 316, (pl. 70a).

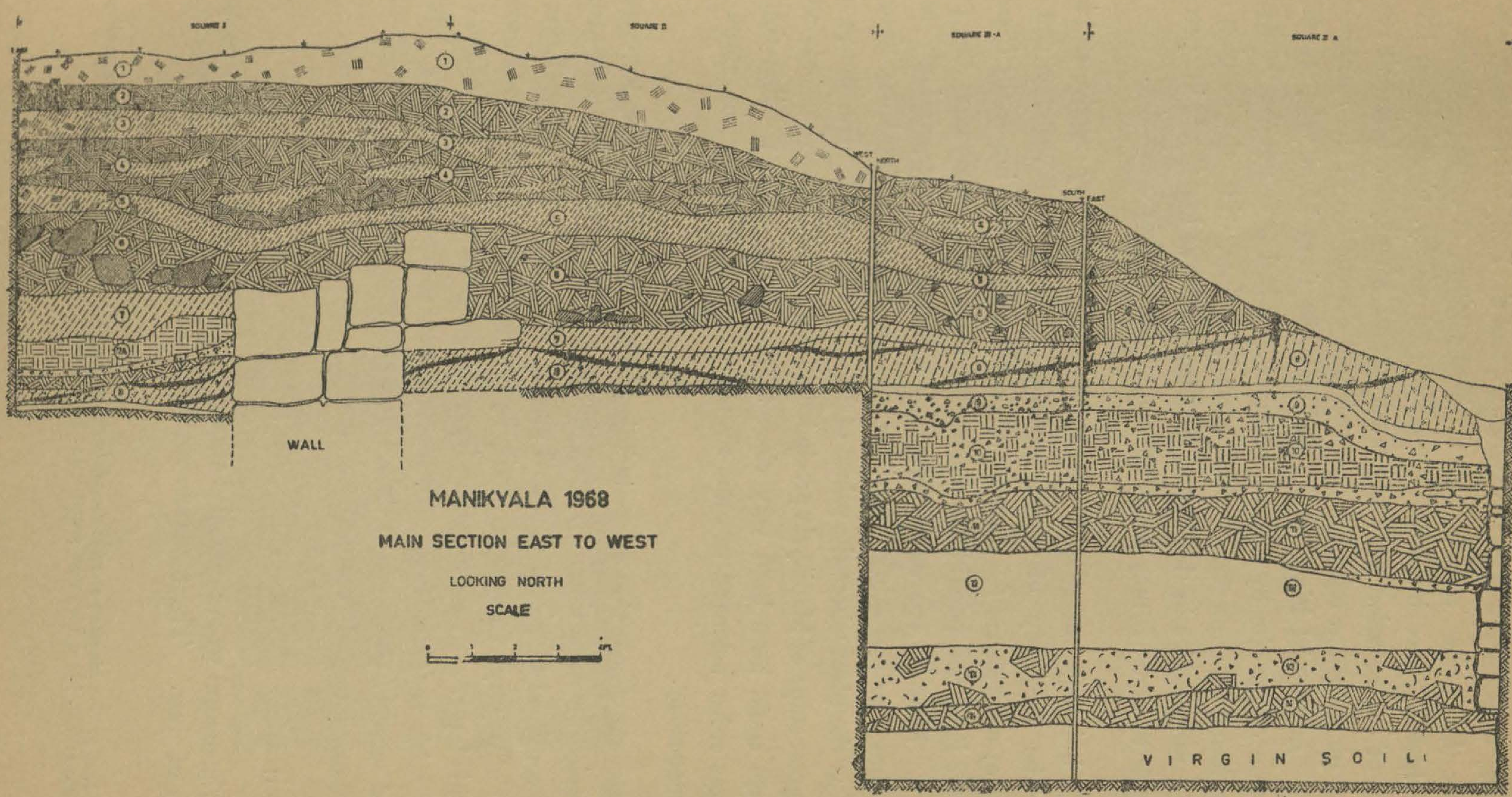


Fig. 2. Manikyala. Main Section East to West

It may be pointed out that in Gandhara and the Punjab it has been observed that more than a few ancient sites in these regions, at some particular period of their history, were burnt down partially or wholly. Cunningham recorded evidence of conflagration on many sites around Manikyala. Marshall recorded a similar phenomenon resulting into the final destruction of the monasteries of Taxila[20]. At Rumial Pind, a site not very far from Manikyala, a wholesale destruction of the site by fire was observed. Whether or not the evidence of burning found in our excavations is related, in time, with the burning of the Buddhist monasteries in this region in general and at Manikyala in particular, is difficult to say. It may be so, but the evidence is not conclusive.

The buildings unearthed in recent excavation were very massive and imposing. The discovery of wood roofing, mud-plastered walls, gilded roofs and use of mica sheets for decoration, clearly reflect their important characters. However, it is not possible to determine their true function on the present evidence. Material recovered from the buildings is disappointingly limited. No sculpture or any other material was recovered. The local traditions refer to this as the place where the palace of Raja Manik existed. But the proximity of the great stupa of Manikyala precluded all such possibilities since only religious buildings could have been very close to the stupa. It is possible that these buildings either belonged to some shrines attached to the main stupa or to some monastery.

After the destruction of the building by fire, the site seems to have remained unoccupied for some time. During this period, layer 7 was deposited in Room I which consisted of pieces of burnt plaster fallen from the walls. Layer 7 was devoid of pottery or any other antiquity and no structural remains are associated with this layer. The succeeding layer 6, consisted of hard clay of dark brown colour with an abundance of concrete, large stones and pottery. This layer yielded some 17 potsherds of thick fabric and with red surface that characterizes the ceramic group of Period II.

PERIOD II

The mound was re-occupied after a brief period of desertion for an unknown length of time. The materials recovered from the layers overlying the burnt

20. Ibid p. 76. Marshall ascribes the wholesale burning of monasteries at Taxila to the invading armies of White Huns in A.D. 460 and his view generally has been accepted.

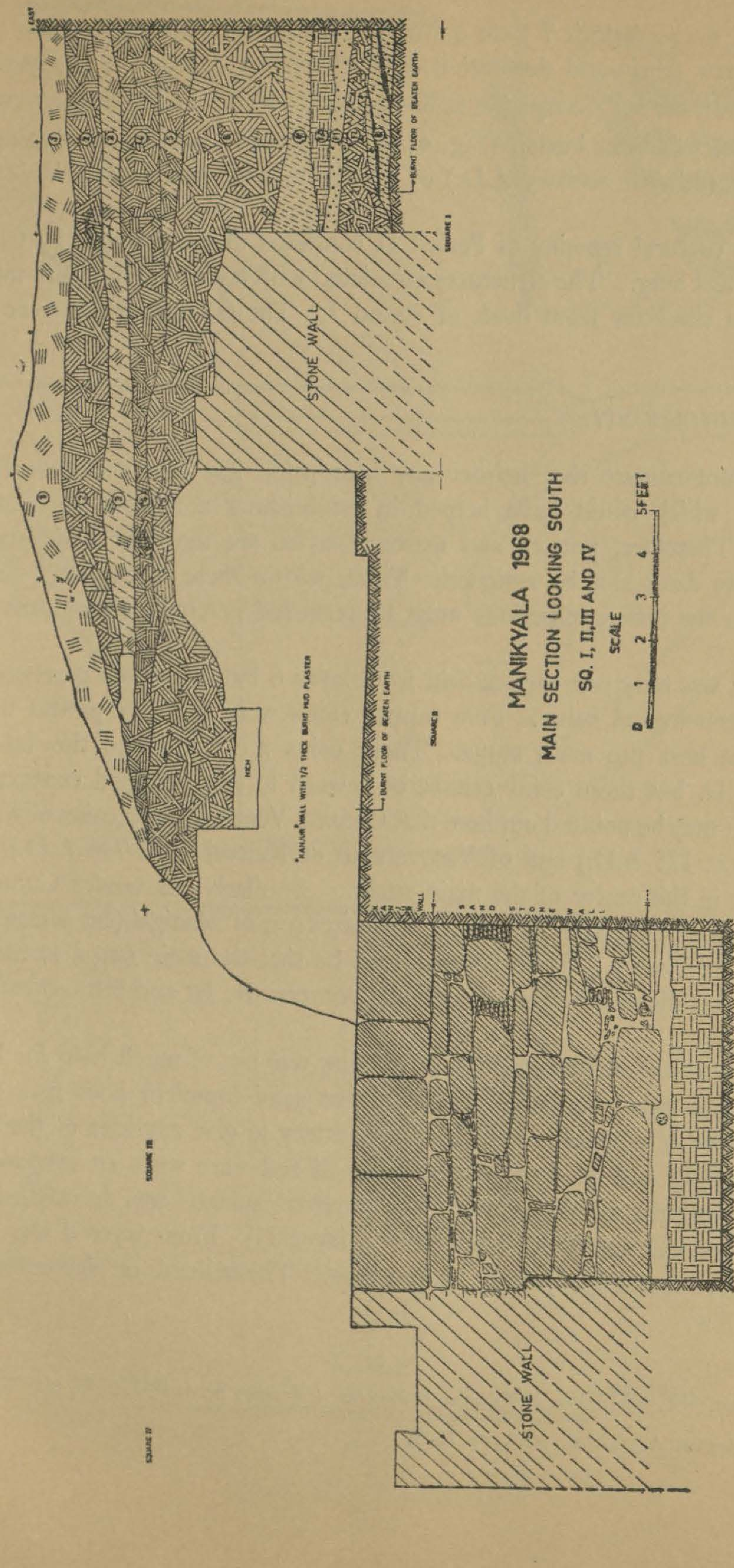


Fig. 3. Manikyala. Main Section looking South.

layer 8 and sterile deposit 7 were quite different in many respects. New pottery forms, of new fabric and decoration made their first appearance in layer 6 and persisted until the last occupation at the mound. From the last upper-most layer came a pottery incense burner (Fig. 4) comparable in shape to one belonging to Period IIB (8th-7th century A.D.) of Tulamba in district Multan[21].

The structural remains of Period II consisted of stone walls, 1½ feet wide and 5 to 6 feet long. The structures associated with layers 4 and 3 were markedly different in character from those of Period I. The antiquities too were few in number.

RELATIVE CHRONOLOGY

It is unfortunate that neither any inscription nor coin was found in the excavation which could have helped in establishing a relative chronology of the site. Therefore, pottery and masonry styles are the only basis on which approximate dates can be assigned. Thus, within these limitations, the dates assigned to the different periods must be regarded as tentative and provisional.

There was only one copper coin from layer 6 but it was too corroded to be of any chronological value. Five copper coins were however picked up from the surface near the main stupa. These coins are datable to the 1st to 3rd century A.D. but these coins cannot be related to any stratified context of our trench. It may be pointed out here that General Ventura found coins of Keenorka (Kanishka c. 125 A.D.) and of Yasoverman of Kanauj (692-736 A.D.) in the shaft sunk in the centre of the main stupa. Similarly, Alexander Cunningham discovered a coin of satrap Jihonika or Zeionises son of Manigal (1st century A.D.) from Somala Pind[22]. The inference may be that the main stupa at Manikyala and other establishments were flourishing between the 1st and 8th centuries A.D.

Pottery recoverd from the recent digging was not of much help for building up a chronological sequence. Except three semi-complete pots from layer 8 and above, other potsherds were too fragmentary to give any idea of their forms. From layers 12 and 11 came some sherds of red ware with an extremely thin body and straight vertical rims. The external surface was burnished. This type of ware was not found after (above) layer 11. From layer 8 was found a bowl of grey ware (Fig. 4) with broken base. The painted or decorated sherds were also few.

21. Mughal, M.R. Excavations at Tulamba, in *Pakistan Archaeology no*. 4. 1967, p. 85, pls. XXV-L.

22. Cunningham, A., *A.S.I.R.*, vol. V, pp. 77-79.

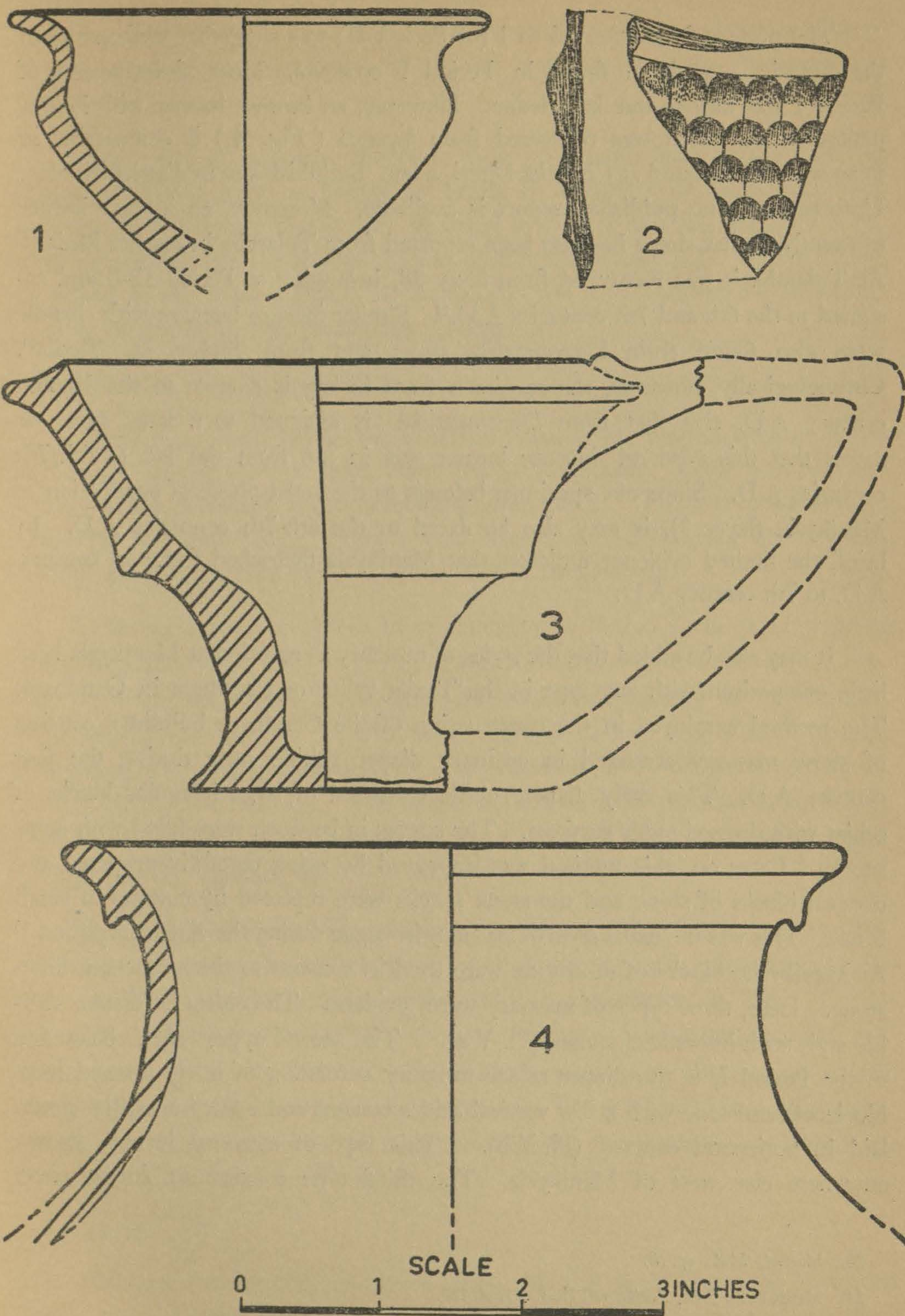


Fig. 4
Manikyala. Pottery types

The pottery from layers 6 to 1 (of Period II) was altogether different from the ceramic assemblage found in Period I contexts. Most of the pottery of Period I was new to our knowledge. However, an incense burner with hollow pedestal base which was recovered from layer 3 (Fig. 4) is comparable in form with those found at Chanaka Dheri, a late Buddhist site in district Mardan. Unfortunately, no published report is available. Moreover, an incense burner of exactly similar shape has also been reported from Tulamba in district Multan. At Tulamba it was recovered from layer 38, belonging to Period II-B and assigned to the 6th and 7th centuries A.D.[23] Similar incense burners with handle were also found from Dharmarajika stupa and from Sirkap at Taxila[24]. Chronologically, however, the specimen from Sirkap is datable to the 1st-2nd century A.D. and that from Dharmarajika is assigned to a later date. It seems that this type of incense burner was in use from the 1st to 6th/7th centuries A.D. Since our specimen belongs to the latest phase of occupation at Manikyala (layer 3), it may also be dated to the 6th-7th centuries A.D. In brief, the limited evidence indicates that Manikyala flourished from 1st century A.D. to 7th century A.D.

It may also be added that the styles of masonry as revealed at Manikyala bear little comparison with any type in the Taxila valley or elsewhere in Gandhara. The method employed in the construction of the Gandhara buildings consists of stone masonry arranged in ordinary diaper rubble style during the first century A.D. This early diaper rubble consisted of large irregular blocks of schist with dressed outer surfaces. The spaces in between were filled with stone snecks. Later on, this method was improved by using carefully-prepared and dressed blocks of stone and the stone snecks were replaced by courses of small bricks. This was the usual style of masonry in vogue during the Kushana period.[25] At Manikyala, blocks of sandstone were used in contrast to the schist and limestone. Here, three types of masonry were evident. The oldest is diaper rubble style with intersticial stones (Pl. V a). The second type, also belonging to the Period I, is the diaper ashlar masonry consisting of finely-dressed huge blocks of sandstone with a few vertical ashlar courses and a few interstitial stones laid in horizontal courses (Pl. V b). This type of masonry is not known anywhere else west of Manikyala. The third type consists of *kanjur* stone

23. Mughal, M.R. *op. cit.*

24. Marshall, Sir John, *Taxila*, vol. II, p. 421, pl. 125.

25. Brown, Percy, *Indian Architecture* (Buddhist and Hindu Periods) Bombay, nd, p. 43

ashlar masonry without any interstitial stones. It may be pointed out that to my knowledge, nowhere else *kanjur* has been used alone for building purposes.

These types of masonry, however, seem to be the local variants of the diaper and ashlar styles as known at Taxila or elsewhere in Gandhara. Our first type as mentioned above, may be dated to the 1st and 3rd centuries A.D., while the second type might have continued until 5th century A.D. Incidentally, all belong to our main period I at Manikyala. As stated above, the structural remains of Period I were consumed in flames.

POTTERY

Pottery recovered from all the stratified levels of the mound is generally of red colour having thin or thick body and is wheelmade. Grey ware is rare. Thick-bodied potsherds are sometime straw-tempered. The core is dark in an otherwise red-fired body. There are however certain differences between the pottery groups of Period I and II which may be emphasized.

In the occupation levels (14 to 8) belonging to Period I, the pottery group includes fine and thin textured pieces of red-burnished wares, lready referred to. The red-burnished ware is absent after layer 8 or immediately before the conflagration noticed in layer 8. The other types of pottery are without painted decoration. The pottery of thick fabric is of red or dull red colour and sometimes treated with red or buff slip. The shapes consist of open-mouthed large vessels with incurved rim. A few specimens show stamped rosette designs arranged between the curved lines.

The pottery of Period II is strikingly different in fabric, shape and decorative designs. The red burnished pottery is completely absent in layer 6 to 1. The painted pottery made its first appearance in layer 6 that marks the beginning of Period II at the site. Potsherds having both medium and thick texture constitute the bulk of the whole assemblage. Bowls, jars, water pitchers (gharas), tumblers and small vessels are the principal forms of pottery. In addition to the incense-burner mentioned above, grey ware shows an increase in number in the last levels, 1 and 3.

ANTIQUITIES

The minor antiquities recovered from the site were few. No sculpture was found. Copper coins of the Kushan periods as mentioned above were

picked up from the surface of the site but not a single specimen come from the excavation. Iron objects were found in all levels and consisted of nails, clamps, hooks and flat pieces. Most of the iron objects were found from layer 8 which was composed of burned materials due to conflagration that engulfed the site. One iron nail with circular head, a $5\frac{3}{8}$ inches long plough-share and an iron axe $3\frac{3}{8}$ x $2\frac{5}{8}$ inches came from layer 4. In association with the red-burnished pottery, a fragment of cut-work glass showing a honey-comb design was found in layer 13. It may be assigned to the 1st century B.C./A.D.

Other objects consist of some fragments of gold leafs and a lump of copper with traces of gold on it (from layer 8); pieces of copper (from layer 9); a piece of stucco with *pipal* leaf design on it (from layer 7); and square sheet of mica measuring $2\frac{1}{2}$ x $2\frac{1}{2}$ inches with two pin-holes (from layer 8).

CONCLUDING REMARKS

Our investigation shows that the remains at Manikyala may be dated to the beginning of the Christian Era. It was consumed in flames sometimes in the fifth century A.D. The site was re-occupied by people having different cultural traits and finally abandoned in the 8th century A.D. The structures exposed by us show massive character of the building constructed during Period I. The roofs of these buildings having wooden beams were most probably gilded and decorated with mica sheets. They stood to a considerable height and most probably served as shrines, chapels, etc. However, the massive character of the buildings, intriguing material such as pottery and antiquities have emphasized the importance of Manikyala area as throwing more light on this Buddhist religious establishment and this contribution to the solution of many cultural and chronological problems. The site deserves full-scale excavation.

EXCAVATIONS AT SARAI KHOLA*
PART-I

by

Muhammad Abdul Halim

[Plates VIII to XXIX and Figs. 5 to 16]

The scene of the recent investigation lies in the Taxila valley which constitutes a part of the Potwar plateau of West Pakistan. It is in this region alone that the presence of Man is documented by a series of man-made stone tools belonging, typologically, to the upper Paleolithic sequence of the Middle Pleistocene period. On the basis of tool types found as a result of limited explorations, various stages of development such as Pre-Soan, Early and Late Soan are suggested. Further work, such as at Sanghao in Mardan district, has added new information on the Late Stone Age and the beginning of the next stage called Mesolithic. Although sufficient evidence is still lacking, in any attempt to reconstruct Man's physical environment and his material culture in this region, the known facts provide a dependable basis, and the very presence of artifacts attest to a long sequence of human prehistory in the Potwar plateau. It is in this setting that the prehistory of Sarai Khola becomes significant.

*The site was initially discovered in December 1967 by Mr. Muhammad Sharif, now Assistant Superintendent of Archaeology, National Museum of Pakistan. The excavation work was commenced on the 17th January 1968 for the first season and continued until the 15th May 1968. The work was resumed during the next three winter season until March 1971 when the operation finally closed. The preliminary report on the discovery and initial work carried out at the site was reported in *Pakistan A chaeology no.* 5, 1968 (pp. 28-40). While writing this report, I have received help and advice from several persons. I am particularly indebted to Dr. F.A. Khan, Dr. Nazimuddin Ahmed, Dr. A.H. Dani and Dr. Harunur Rashid for their advice and encouragement. My thanks are also due to Dr. M.R. Mughal who spared a great deal of time to go through the manuscript of the report and offered constructive criticism and valuable suggestions which have been incorporated. Grateful thanks are also due to Gulzar Muahammad Khan and Mr. Saeedur Rahman who were associated with the field work. My thanks are also due to the staff of the Exploration Branch who helped me in the excavation work and in the preparation of this report namely Ch. Sadar Din, Tariq Masud, Manzoor A. Siddiqui, Hasinuddin Qureshi, Motiur Rahman, Abdul Qayyum, S.A. Zaidi, S.M. Ilyas, Abdul Hamid and Sandal Khan. At Taxila, I received practical help from my friends Mr. S.R. Dar, Mr. Niaz Rasool and Mr. F.D. Masud.

The Neolithic stage of development which is supposed to have followed the Mesolithic stage is also poorly known and not properly defined in West Pakistan for want of sufficient evidence. Limited evidence comes from the Loralai, Quetta and Surab Valleys, but the contemporary or related material in the Indus Valley has not yet been discovered. In this context, the earlist levels of Sarai Khola assume added significance since they yielded archaeological evidence belonging to the end of the fourth millennium B.C., almost contemporary in date with the late Neolithic stage identified at few places in the Baluch hills. The presence of this late Neolithic stage in the Potwar region, where artifactual evidence beginning from the upper Paleolithic period is well established, opens up many exciting possibilities of tracing Man's continuous history in this part of West Pakistan. Further, Sarai Khola has also yielded material remains of the early third millennium B.C. which is chronologically earlier than the mature stage of the succeeding Harappan Culture of the Indus Valley. The related material has already been discovered at different places in the Indus Valley. Thus, the evidence is gradually accummulating and that stage of human development which has since been designated Kot Diji from the type site in upper Sind is gradually unfolding itself to a better understanding of those who are engaged in this field of study.

Sarai Khola has also shed light on the late second and the first millennium B.C. period, generally regarded as the 'Dark Age' in Pakistan's history. It was the time which coincided with arrival of the enigmatic Aryans from the north-west. To the west of the Indus, recent excavations in Dir and Swat have yielded very significant information which help trace the movements of new groups of people and their material culture. Sarai Khola lies to the east of the Indus and on the route to the Indus plains from the hilly regions and its position and the discoveries made here are significant in that context.

LOCATION

The mound at Sarai Khola (Pl. IX and Xa) lies 2½ furlongs west of Kala Nala bridge on the Grand Trunk Road and about 1½ miles south-west of Bhir Mound, the first city site of Taxila (Fig. 5). The mound which rises in four successive terraces, is 1693.62 feet above Mean Sea Level (Fig. 6). The axes of comprises two parts, feet north-south and 1000 feet east-west. The mound the site measures 2000 one high and the other low—designated—Mound A and B (Fig. 6). It is only the high mound 'A' which contains cultural deposits. Mound 'B' has been separatedfrom Mound 'A' by a deeply eroded gully and all its

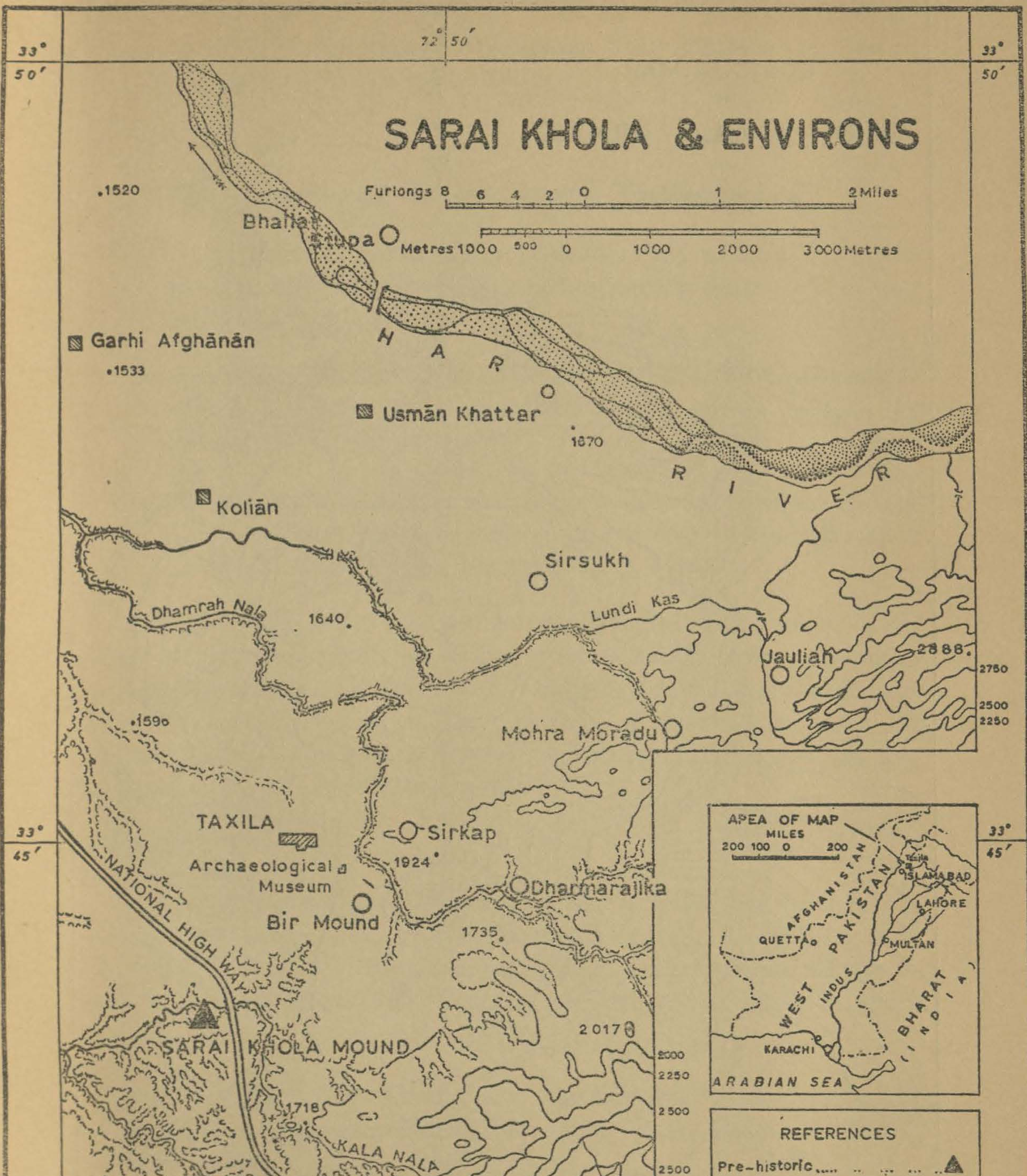

SARAI KHOLA & ENVIRONS
Furlongs 8 6 4 2 0 1 2 Miles
Metres 1000 500 0 1000 2000 3000 Metres
33° 50′
72° 50′
33° 45′
.1520
Bhallar Stupa
Garhi Afghānān
•1533
H A R O
Usmān Khattar
1670
R I V E R
Koliān
Sirsukh
Dhamrah Nala
1640
Lundi Kas
Jaulian
2888
2750
2500
2250
•1590
Mohra Moradu
TAXILA
Sirkap
1924
Archaeological Museum
Dharmarajika
Bir Mound
NATIONAL HIGHWAY
1735
2017
SARAI KHOLA MOUND
2000
2250
2500
1718
KALA NALA
2613
AREA OF MAP
MILES
200 100 0 200
AFGHANISTAN
WEST PAKISTAN
ISLAMABAD
LAHORE
QUETTA
MULTAN
INDUS
BHARAT (INDIA)
KARACHI
ARABIAN SEA
REFERENCES
Pre-historic
Other Ancient Sites
Modern Settlements
Hasin Qureshi - 71

Fig. 5

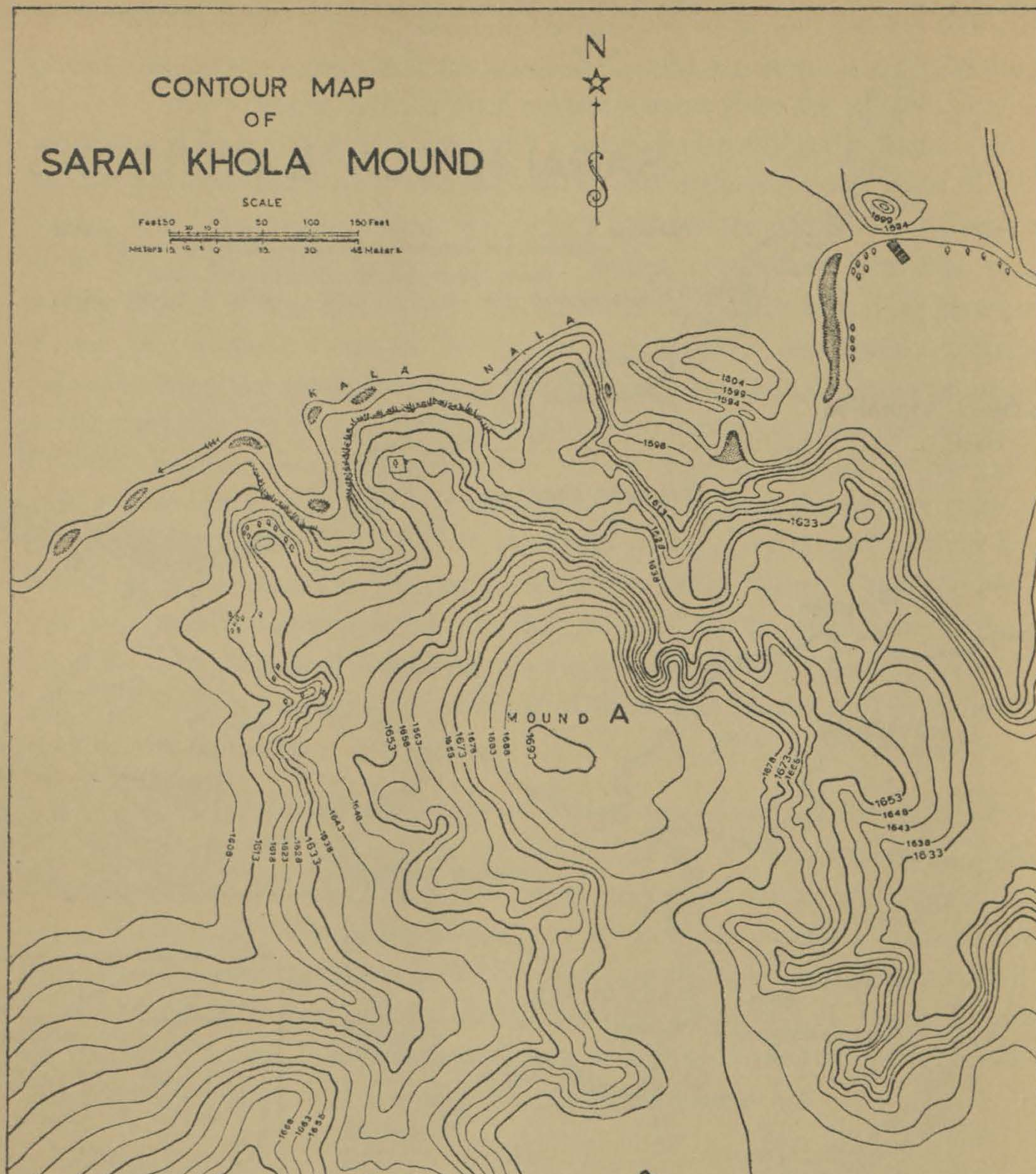

CONTOUR MAP
OF
SARAI KHOLA MOUND
SCALE
N
K A L A N A L A
MOUND A
M O U N D B
1633
1653
1673

Fig. 6

cultural deposits have been washed away. This action of nature has rendered the low Mound 'B' archaeologically insignificant. Thus excavation on Mound 'A' only was expected to yield useful results.

AIM AND SCOPE

The main purpose of the excavation at Sarai Khola was :-

(*i*) to determine the potantialities of the site and to have a complete sequence of human occupation which apparently seems to be of long duration;

(*ii*) to determine the relationship of the Kot Diji culture with late-neolithic culture as represented at Sarai Khola and, if possible, to trace the ancestory of Kot Dijians; and

(*iii*) the occurrence of graves, oriented in a east-west direction at Sarai Khola needed explanation with special reference to the discovery of Grave Culture at Harappa, Dir and Swat.

With these purposes in view, excavation was started and, initially, it was planned to have a complete cross section of the mound in order to determine the stratigraphical sequence. But due to unusual heavy and intermittent rains the work was greatly hampered. The occurrence of cemeteries in Period III also considerably slowed down the progress, and sufficient information regarding the preceding periods could not be obtained.

SUMMARY OF RESULTS

A complete chronological sequence has been established at Sarai Khola, where excavations have revealed four main periods designated here (from bottom) as Period I, II, III and IV (Fig. 8). There are two phases in Period III namely (*a*) Early Cemetery and (*b*) Late Cemetery. A summary of results is given below :-

1. During Period I, Sarai Khola mound was inhabited for the first time by the people who produced polished stone celts, chert blades and highly burnished porttery.

2. In Period II, the Kot Dijian pottery was prominent in the early levels. However, in the early Period II the red burnished wares overlaps the Kot Dijian wares, indicating continuity of occupation.

3. Structures of stone and post-holes occur in the late levels of Period II.

4. After Period II, the site was occupied by a cemetery in which two levels had been encountered. It belonged to a group of people who knew the use of iron.

5. Long after the abandonment of the site (after Period III), the mound was re-occupied during an early medieval period designated Period IV. This last occupational phase is indicated by the presence of stone walls, fire places, sanitary and soak pits.

6. Some deposits associated with Period IV, have either been washed away or were removed by the local farmers to make the ground suitable for cultivation.

MATERIAL REMAINS[1]

The material recovered at Sarai Khola has been divided into four main Periods described as I, II, III and IV. In summary, the whole sequence is as follows:—

Period I — Stone celts, blades, bone points and red burnished pottery.

Period II — Stone celts, blades, scrapers; bone points, copper objects, stone beads, terracotta human figurines, bangles, burnished and Kot Dijian wares.

Period III— (*a*) Early Cemetery
(*b*) Late Cemetery associated with iron.

Period IV— Semi-precious stone beads, shell and terracotta bangles, rattles, balls, animal and human figurines and pottery.

(*i*) *Period I*

The traces of the first human settlement at Sarai Khola were found in the northeastern, and southern slopes of the mound and also in the middle of the top terrace. In the earliest Period I, the site was occupied by a group of people who used polished stone celts and flint blades, scrapers, bone points and highly burnished pottery of red colour. Among the finds of Period I, burnished pottery is of considerable interest. It is hand-made and shows thick and medium texture. The surface has been rubbed to produce a burnished exterior. Pottery forms of Period I include thick textured pans and medium fabric bowls with flaring sides.

1. Details of antiquities will be discussed in the second part of the report to be published later.

(ii) Period II

Stratigraphically, Period II overlaps the wares of Period I. The new settlement of Period II revealed pottery forms of the Kot Dijian type. Evidence of the occupation of Period II was found all over the mound. Scanty structural remains of stone were encountered in the last stratum of Period II (Pl. XVII & XVIII a). The occupational deposits of Period II are about 7 feet thick and they consist of 6 definite floor levels of varying thicknesses. The floors are made of rammed mud and it was observed that some floors were re-used after necessary repairs.

In the light of available evidence, it is difficult to say where the people of Period II came from. However, it seems that after Period I, the site witnessed the arrival of a new group of people with advanced knowledge of pottery making. In the early levels of Period II, the burnished pottery of Period I remained in use side by side with the new pottery types, but gradually, the use of burnished pottery decreased and the new ceramics, resembling the Kot Dijian wares, increased in frequency. The pottery of Period II include sopen-mouthed and externally grooved vessels with short or averted rim and flat-based elliptical jars with prominent flange or external ledge for receiving covers; bowls; flat dishes. thick-textured jars of medium size; ladles and dish-on-stands. The pottery of Period II is treated with deep-red slip or wash externally and a wide band is painted on the neck in black or sepia. In the later stages, loops and horizontally drawn wavy lines also appear in addition to a wide band on the neck. Some pottery specimens of Period II depict broad 'pipal' leaf and arrow designs. Others antiquities recovered from Period II levels include stone celts with sharp polished edges, stone chisels, sling balls, grinders, cores, long flint blades, scrapers, stone beads, bone points, shell and terractotta bangles, copper antimony rods and needles.

(iii) Period III

Period III is marked by the discovery of a regular Cemetery of two phases designated as Early and Late, one super-imposed upon the other. Some time after the end of Period II, the mound was used as a burial ground. At this stage, it is not possible to identify precisely the origins of the people who lie buried at Sarai Khola, but it is evident that the people of Period III used iron. The material recovered so far comes from the Late Cemetery graves and includes two iron rings, one iron rod and one braclet consisting of tiny disc beads of paste. The ends of the braclet are fastened with iron clasps in a position which suggest that they were threaded by a thin string.

(*iv*) *Period IV*

For some time, the mound of Sarai Khola was not used for the disposal of dead, and was then again occupied by a group of people during the medieval period. The traces of occupation belonging to Period IV are encountered only on the two top terraces of the mound. This late occupational phase yielded stone walls, rammed mud floors and a number of fire places.

As revealed by the material contents, Period IV has no connection with the proceeding Periods III, II and I. The structural remains of Period IV comprise spacious rooms built in rubble stone masonry. This material was apparently collected from the nearby *nala* (stream) and from the graves of the Late Cemetery of Period III. The new settlement is also marked by the presence of soak pits (Pl. XV) and sanitary pits (Pl. XVI & XIX). In the levels of Period IV, a variety of pottery has been recovered including heavy textured storage jars, water pitchers of medium and thin texture, coarse bowls and dishes and vessels with handles on the shoulder.

The majority of small finds recovered from Period IV includes semi-precious stone beads, shell and terracotta bangles, beads, rattles, balls, animal and human figurines, stone grinding slabs and grinders. The terracotta fiigurines are of special interest because of their style. The bulls, ferocious in appearance with applied eyes, truncated mouth, elongated hump and horns, are well modelled. A female figurine shows an elaborate head dress, profuse jewellery, pinholed breasts and almond-shaped eyes. It is a fine example ot modelling. Other small finds include a stone celt and two flint scrapers, obviously of pre-historic date and picked up by the people of Period 1V from the low mound.

CHRONOLOGY [1]

The hand-made and red burnished wares occur only in Period I at Sarai Khola. However, they overlap with the wheel made pottery of the succeeding Period II. In the transitional level (Fig. 8), the red burnished pottery occurs in association with wheel-made bowls painted inside and near the rim with multiple parallel lines in black. In the Indus valley, comparable pottery types have not yet been found. However, the tradition of pottery burnishing and the form of painted bowls as found in the transitional layer between Sarai Khola I & II seem to be related to those found by De Cardi in Anjira levels

1. The soil samples collected from various levels of the site are yet to be sent for Carbon-14 tests.

I & II and Siah Damb I in Kalat[1], which in turn are comparable with the so-called "Kile Gul Mohammed" wares of the Quetta Valley[2]. On the evidence of Baluchistan and comparable material from the neighbouring regions, M.R. Mughal has assigned an approximate date of 3100 B.C. to Anjira levels I & II and related material from Kile Gul Mohammed levels II-IV[3]. Sarai Khola levels of Period I which yielded red burnished wares and bowls resembling Kile Gul Mohammed wares should, therefore, be dated around 3100-3000 B.C.

As already pointed out, the ceramics of Period I overlap with those of the succeeding Period II only ın the early stages (Fig. 8). The pottery of Period II is wheel-made, well fired and of red colour. The most conspicuous pottery types are the globular vessels with short or everted rim painted around the neck and globular flanged vessels. Both these types occur in the Kot Dijian levels (4) to (16) at Kot Diji[4] and are widely distributed in the Indus Valley[5]. From the early levels of Kot Diji (layer 14), third above the natural soil, came a radiocarbon date of 2605-145 B.C. (P-196)[6]. It may be noted that the pottery forms, comparable with those found at Sarai Khola, were already fully developed at Kot Diji in the earliest layer (16), whereas similar pottery types in Sarai Khola Period II overlap with the hand made burnished pottery of Period I which is apparently earlier in date. It is possible that Sarai Khola and related sites in Punjab were chronologically earlier than those in Sind. It therefore, follows that Sarai Khola II levels containing Kot Dijian pottery types and showing continuation of the "Kile Gul Mohammad" wares for some time in early part of Period II may be dated around 2800-2700 B.C. if not earlier. The settlement continued to exist until about 2400 B.C. when a matured form of Harappa culture already appeared in the Indus plains.

1. Beatrice deCardi, Excavations and Reconnaissance in Kalat, West Pakistan—the pre-historic sequence in the Surab Region, *Pakistan Archaeology* (Karachi) No. 2, 1965, pp. 86-182.

2. Water A. Fairservis, Jr., Excavations in the Quetta valley, West Pakistan, *Anthropological Papers of the American Museum of Natural History*, New York, 1965, p. 256.

3. M. Rafique Mughal. *The Early Harappan Period in the Greater Indus Valley and Northern Baluchistan* (*c.* 3000-24000 *B.C.*) Ph.D. Dissertation, University of Pennsylvania, Philadelphia 1970 pp. 277-279, 297 and 298.

4. F.A. Khan, Excavations at Kot Diji, *Pakistan Archaeology*, No. 2, 1965 (Karachi), Fig. 17, No. 5 and Fig. 19, No. 6.

5. The distribution pattern of various types of Kot Dijian pottery including those found at Sarai Khola is documented by M.R. Mughal *op. cit.* Table 4, pp. 117-124 Dr. Mughal reports that the flanged vessels occur at Bhoot (Bahawalpur), Gomal Valley, "pre-defences" levels of Harappa, Jalilpur, Kalibangan (India), Pai-jo Kotiro (Sind) and Rajo Dero (Sind). The globular vessels with short painted or unpainted neck as found in Sarai Khola Period II, also occur at Amri, Bhoot, Gomal Valley, Harappa "pre-defence" levels, and Jalilpur.

6. E.K. Ralph, University of Pennsylvania Radio-carbon Dates III, *American Journal of Science Supplement* New Haven Vol. 1, p. 51, 1959.

The discovery of cemeteries consisting of two groups of burials at Sarai Khola is of great interest, but these cemeteries have posed some problems as regards their chronology. The graves belonging to the Early and Late Cemeteries were oriented in east-west direction and the dead, with only one execption, were buried with head to the east and feet to the west. Evidently, no grave material accompanied the burials. Parallels to these burials are not known in the sub-continent. The earliest evidence of ancient burials comes from cemetery R-37 at Harappa which is of the late third millenium B.C. At that site the disposal of the dead stands in sharp contrast to the Sarai Khola burials. The Harappans buried their dead facing west in north-south direction together with grave material. At Sarai Khola, the absence of grave material in the cemeteries and the orientation of the dead in east-west direction suggest a burial practice different from the one followed by the Harappans.

At Harappa, another cemetery, belonging to the post-Harappan period, was discovered in area 'H' of the mound. There, two supper-imposed strata revealed both pot and extended burials. The lower stratum II contained extended and fractional burials with grave goods comprising red painted pottery.

The burials of stratum I in Cemetery 'H' show a radical change in the mode of disposal of the dead. The burials are marked by large ellipsoid and carinated pedestalled urns in which human skulls and other bones were deposited after cremation. In short, we notice again that in the case of cemetery 'H' at Harappa, the burial customs and modes of disposal differ from those of Sarai Khola. Nevertheless, the orientation of two skeletons exposed in the eastern trench of cemetery 'H' seem to be identical with that of the skeletons exposed at Sarai Khola.

The recent discovery of a "Grave Culture" with rich grave furniture in the Dir and Swat regions throw light on the hitherto dark period between the end of Harappa culture and the beginning of the historic period.[1] The Grave Culture of Dir and Swat indicates two periods—Bronze and Iron. This culture is fundamentally different from those of Sarai Khola III and of the Harappans. The former represents three burial rites.

(*i*) inflexed burial

(*ii*) urn burial with cremated bones

(*iii*) fractional and multiple burials

1. A.H. Dani, Timargaraha and Gandhara Grave Culture, *Ancient Pakistan*, Vol. 3, 1967(Peshawar) pp. 36-85.

The grave goods consist of pottery and miscellaneous objects of gold, silver, bronze, iron, stone and ivory. The authors of "Grave Culture" are identified by the excavator as the Aryans.

The "Grave Culture" is characterized by a plain grey pottery tradition which is associated with early movement of the Aryans into the sub-continent. Prior to this discovery, however, the penetration of Aryans in the Gangetic plains is suggested by the presence of a painted grey ware type. This evidence is considered to mark a later movement of the Aryans towards east, but the penetration of the Aryans in the northern region of the sub-continent, particularly to the west of the Indus, remained untraced. The skeletal remains of Period III at Sarai Khola have to a great extent filled this lacuna.

The penetration of Aryans into the sub-continent is controversial. Most scholars believe that the Aryans entered the sub-continent through its north and north-western borders in successive waves. It is possible that the new-comers kept pushing the earlier settlers eastwards, and this might be one of the reasons that their habitation sites have not yet been indentified.

The archaeological investigations carried out so far, have revealed a number of post-Harappan settlements, namely, Cemetery 'H', Jhukar and Jhangar, but these sites cannot be associated with the Aryans.

During their early migration, it is possible that the Aryans could not hold the western plains of the sub-continent, because those plains lie on the main routes to the Indus plains. Because of constant movements of the people from north and north-west, it was probably not possible for any single group to hold the plains for a long period. In this connection, it may be recalled that a large number of human skeletons belonging to the post-Harappan cemetery were thrown in the dump of Area G at Harappa. It was followed by the people of Stratum I cemetery. It seems that the story of invasions was repeated many times.

In the hilly regions the story appears to be totally different. Perhaps, the first immigrants took hold of the uplands and controlled the surroundings for a long period. Since they were defended by the natural barriers, the new-comers from north could not easily over-power the early settlers. On the contrary, the new groups of people were assimilated by the earlier groups and both evolved an almost uniform pattern of life, with a slight variations. This is evident from the discoveries of the "Grave Culture" in Dir and Swat states.

On the basis of available evidence gathered from anthropological studies, we may, with some amount of certainty, link the people of Sarai Khola III with the movements of Aryan immigrants into the sub-continent. Here the preliminary remarks of Dr. Bernhard, a physical anthropologist, may be reproduced.

"In the average the pre-historic population of Sarai Khola cemetery is thus relative short and broad headed, low vaulted, with medium high but comparatively broad face with a certain degree of proquathism, high orbits and a narrow and prominent nose giving the skulls an *Europoid appearance.* The same characters are also true of the numerically smaller female group, showing, according to the known sexual differences, smaller values for the absolute cranial measurements as compared with the males but nearly the same values for the indices."[1]

The Sarai Khola cemeteries seem to belong to a period which witnessed the appearance of the Aryans who used iron in the north-western parts of Pakistan.

As pointed out above, the Sarai Khola Period III people are different culturally from those buried in Harappa, Dir and Swat cemeteries. Therefore, they appear to have lived in the vicinity of Sarai Khola around 1000 B.C. It is, however, a tentative dating and has to be confirmed by other evidence.

The remains of Period IV at Sarai Khola are found to be sealing the two cemeteries of Period III. In the absence of any datable material from Period IV we may have to depend on comparable material from other sites. But, unfortunately, no positive evidence is available to suggest a relative date for this period. However, this occupational phase of Sarai Khola does not correspond to any of the strata of Taxila excavated at Bhir Mound, Sirkap or Sirsukh. Due to erosion and human disturbance, most of the evidence of the last occupational phase has been washed away or removed. The pottery and female figurines of Period IV may belong to about 700 to 800 A.D. In brief, the chronology of Sarai Khola may tentatively be fixed as follows:[2]

Period I (Late-Neolithic c. 3100-3000 to 2800 B.C.)

Period II (Kot Dijian 2800 B.C. to 2400 B.C)

1. Wolfram Bernhard, Preliminary Report on the Human Skeltal Remains from the prehistoric cemetery of Sarai Khola, *Pakistan Archaeology* No. 6, 1969 (Karachi) p. 105

2. This chronology in terms of actual excavated levels, (the number of which differs from trench to trench) has been shown in Fig. 8.

SARAI KHOLA 1968-71
LAY OUT TRENCHES

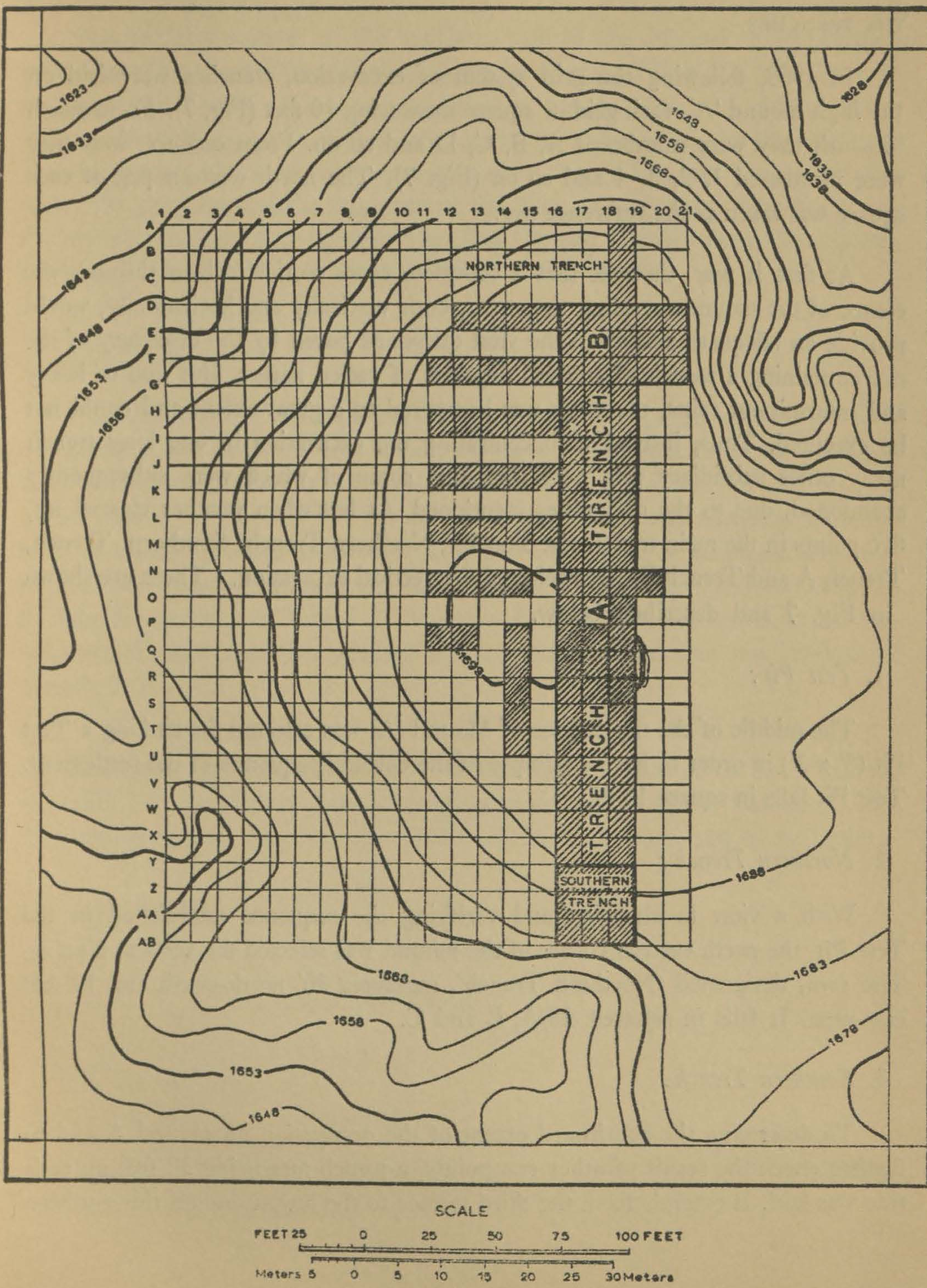


Fig. 7

Period III (Cemeteries) c. 1000 B.C.

Period IV (Settlement of early Medieval period) c. 700 A.D. to 800 A.D.

THE TRENCHES

In 1968, following the grid system of excavation, trenches were laid on the high mound 'A', each grid or square measuring 10 feet (Fig. 7). From north to south they were numbered A, B, C, D and so on. From east to west they were numbered 1, 2, 3, 4 and so on (Fig. 7). The north western peg of each square was taken as the reference peg.

At first it was thought that a complete cross section driven through the centre of the mound revealing the strata, both vertically and horizontally, would provide an adequate answer to the vital questions posed by the discovery of the site containing a wealth of cultural deposits of varied nature. But due to heavy and intermittent rains, the work was hampered to a great extent and could not be executed. Thus, instead of concentrating the excavation in one long trench many other subsidiary pits were also dug, some of which were subsequently abandoned, due to the difficulties mentioned. At last when weather cleared up, five points in the main trench viz. Test Pit, Northern Trench, Southern Trench, Trench A and Trench B, were selected for vertical excavation. These are shown in Fig. 7 and described below.

1. *Test Pit:*

The middle of the top terrace of Mound 'A' was selected for sinking a Test Pit (5′ x 3′) in order to have a glimpse of the cultural sequence of the settlement. Test Pit falls in square 16/N.

2. *Northern Trench:*

With a view to checking and verifying the sequence established in the Test Pit, the north eastern corner of the mound was selected for vertical digging. The area, designated 'Northern Trench', measures 30′ north-south and 10 feet east-west. It falls in squares. 18/A, B and C.

3. *Southern Trench:*

To determine the southward extent of the occupation on mound A and to further check the result of other two points, a trench measuring 30 feet on each side was laid. It extends from the third terrace to the lowest one on the southern

edge of the mound. This trench was designated 'Southern Trench'. It falls in squares Nos. 16, 17 and 18/Y, Z and AA.

4. *Trench 'A':*

Due to deep erosion on the southern side of the Mound 'A' difficulties arose regarding the problem of co-relating the layers of Test Pit with those of the Southern Trench. There was no possible way to cope with this problem of crucial nature except by digging area between the Test Pit and the Southern Trench down to the level where it runs continuously. The area thus excavated solved the problem and the sequence of the Test Pit and the Southern Trench was co-related. This area between the Test Pit and the Southern Trench was designated 'Trench 'A'.

5. *Trench 'B':*

The discovery of the cemetery in the Trench 'A' posed another problem of equally grave nature. The cemetery exposed in the Trench 'A' has two distinct phases (early and late). But in the absence of grave material and because of the paucity of parallels in Pakistan and elsewhere, it was necessary to know with precision the exact nature of the culture to which it belonged. Further, to know the extent of the cemetery of Period III on the mound and also to bring to light the remains of Period IV the area situated between the Test Pit and Northern Trench was also selected for excavations. The area was designated Trench B (Fig. 7).

The above mentioned trenches are in fact sub-divisions of the main trench, originally laid in order to have a complete cross section of the Mound A. For reference purposes, these trenches will henceforth be referred to as under:-

Test Pit

Northern Trench

Southern Trench

Trench A

Trench B

The excavations carried out elsewhere on mound 'A' and its related material will be described squarewise.

STRATIGRAPHICAL CORELATION OF THE EXCAVATED TRENCHES AT SARAI KHOLA

PERIODS	TEST PIT	NORTHERN TRENCH	SOUTHERN TRENCH	TRENCH A	TRENCH B
IV	1 To 2A	1, 2	1	1 To 2A	1, 2, 2A
III	3		?	3	3
II	4 To 12	3 To 18	4 To 9A	4, 9	4, 5 ↓ Unexcavated
TRANSITIONAL	13, 13A	19	10	10	
I	14 To 18	20	11 To 13	11 To 13	

NATURAL SOIL

Fig. 8

11. Stratification

As a result of excavation at Sarai Khola interesting and useful information regarding the pre-history of Pakistan was obtained for the first time in the Gandhara region where four main cultural periods came to light.

Excavations have revealed interesting stratigraphical features. Except for the Test Pit, where foımation and character of stratification is regular and uniform, the layer formation in other trenches showed fairly disturbed condition. Disturbances in the stratification can be well understood after viewing the eastern section of the Northern Trench. The main reason for the disturbance in the stratification is the deep and sharp erosion caused by heavy annual rains. Erosion on the southern terraces also created some problems in co-relating the stratification of the Southern Trench with that of the Test Pit. The only way out was to co-relate the layers of the first terrace with the second and so on, and then to establish the co-relationship with the stratification of the southern slopes. The appearance of the Early Cemetery Graves on the First, Second and Third terraces, extending right up to the southern edge of the Mound 'A' has helped a lot in establishing co-relationship between the corresponding layers of various terraces and slopes.

Excavations in all the trenches, where vertical digging has been carried up to the natural soil, have brought to light ten occupational levels in the entire deposit of the four periods. Some of the occupational levels are well defined with rammed floors, and others have been determined on the associated evidence. For the stratigraphical co-relationship of the excavated trenches at Sarai Khola see Fig. 8.

(*a*) Test Pit (Fig. 11 a)

The excavation in the Test Pit brought to light the complete sequence of cultural deposit at Sarai Khola. Virgin soil in this pit was encountered at the depth of 17 feet after cutting through 18 cultural layers. In all, ten definite occupational levels were encountered. These are associated with layer (2), (6), (8), (9), (10), (11), (13), (16) and (18). The composition and character of the layers in the Test Pit are described below, starting from the bottom.

Layer (18)—The earliest human settlement at Sarai Khola is noticed in the Test Pit at the depth of 17 feet. The layer (18) is composed of knakar mixed yellowish hard soil which yielded pieces of burnished pottery and loose blackish

pockets of charcoal and ash were also visible. This stage marks the beginning of a rudimentary settlement at Sarai Khola in the Late Neolithic age.

Layer (17)—Composed of kankar mixed yellowish hard soil, it contained peices of pottery and loose pockets of blackish soil in which charcoal and broken pottery were recorded.

Layer (16)—Composed of dull yellowish soil mixed with kankar contained charcoal and a greater frequency of burnished potsherds.

Layer (15)—Composed of yellowish soil mixed with less kankar, yielding burnished potsherds, some stone flakes and animal bone fragments.

Layer (14)—Composed of compact dark brown ashy soil mixed with charcoal, burnished potsherds and bone fragments. It is in the bottom of this layer that a long parallel sided flint blade was recovered.

The end of layer (14) marks the end of Period I. The thick cultural deposits from layer (18) to (14) are completely free from other alien types of pottery.

Layer (13)—An occupational level composed of compact light brownish soil and containing charcoal pieces and potsherds. The sherds recovered from layer (13) include burnished pottery fragments and typical Kot Diji type pottery with an externally grooved body. One flint blade has also been recovered from this layer. Associated with layer (13) is a floor (13A) with excessive burning marks spreading through out the Test Pit. The floor is made of hard clay mixed with gritty material.

It was here that Period II made its first appearance and lasted upto layer (4). The deposit of Period II in Test Pit is six feet thick in which 6 definite floor levels have been encountered.

Layer (12)—is composed of light brownish compact soil, mixed with potsherds and charcoal pieces.

Layer (11)—An occupation level, composed of light brownish compact soil containing a few ashy marks and potsherds. Its floor (IIA) is marked by a thick burnt deposit, spreading over the entire excavated pit.

Layer (10)—Composed of brownish compact soil containing charcoal pieces, pottery bits and a few stones. It is one foot thick deposit.

Layer (9)—The composition of layer (9) consists of ashy deposits, charcoal and potsherds. Its bottom is marked by a thin blackish line below which lies its floor (9A). A fragment of an ivory object and a barrel shaped paste bead were found from layer (9).

Layer (8)—An occupation deposit composed of compact light greyish soil, containing ashy marks, characoal and potsherds. The bottom is marked with 2¼ inches thick floor (8A). A tiny paste bead was found from the top of floor (8A).

Layer (7)—The deposit is composed of compact soil containing potsherds, ashy marks and charcoal. The associated floor is marked (7A). Terracotta bangle fragments were found lying on the floor (7A).

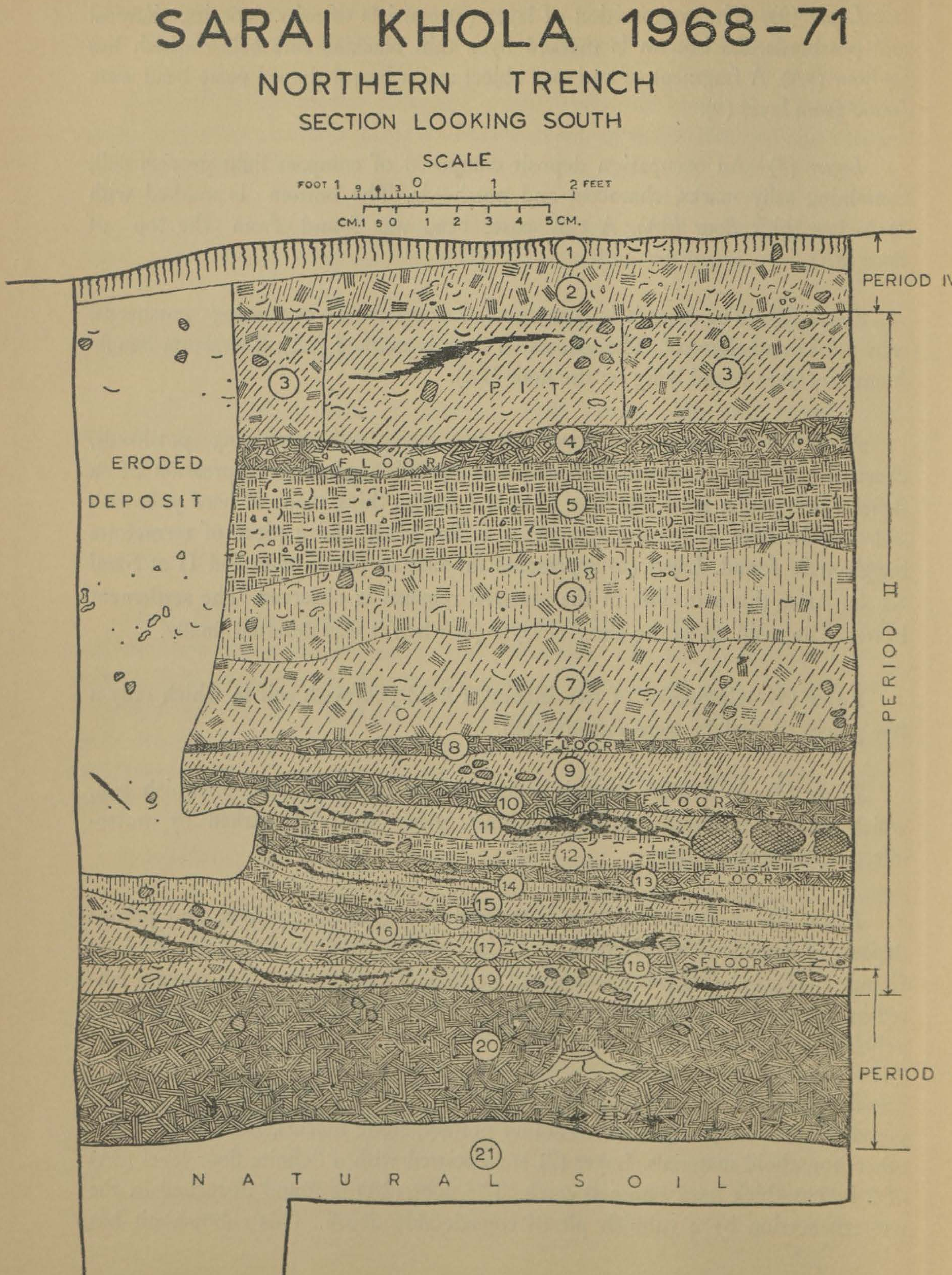
Layer (6)—Composed of hard compact clayey soil containing potsherds, charcoal and ashy material. The entire composition gives an impression of a definite occupation level. Its floor (6A) is 2 inches thick made of hard yellowish soil. On the floor of (6) a fragment of a flint blade and a piece of terractotta bangle were found. Layer (6) represents the mature phase of Period II at Sarai Khola. After this a decline in the material remains is observed. The settlement however lingered up to the close of layer (4) when it was deserted finally.

Layer (5)—Composed of two inches of hard yellowish soil in which only a few peices of pottery were encountered.

Layer (4)—is a thick deposit, composed of compact dark brownish soil, which yielded potsherds, bone fragments, gritty material marked by water-affected yellowish patches.

Layer (3)—A disturbed layer composed of comparatively loose and porous deposit of considerable thickness. It is in layer (3) that the first grave of Late Cemetery (Period III) was encountered in its southern section. The grave oriented in east-west direction was recorded 1 feet 2 inches deep sealed by large stone pebbles.

Layer (2)—The last occupational phase of Period IV on the site and is composed of loose ashy deposit cont aining pottery, stone objects, shell bangles and other household materials. Layer (2) is associated with a definite floor level (2A) of 2 inches thick hard rammed earth. The floor (2A) is found disturbed in the western section by a rubbish pit of considerable depth. This rubbish pit has



SARAI KHOLA 1968-71
NORTHERN TRENCH
SECTION LOOKING SOUTH
SCALE
FOOT 1 0 1 2 FEET
CM.1 5 0 1 2 3 4 5 CM.
PERIOD IV
PERIOD II
PERIOD I
ERODED
DEPOSIT
PIT
FLOOR
NATURAL SOIL
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Drawn by— Hasin Qoreshi

Fig. 9

disturbed the under lying deposits of layer (3) and (4) and probably caused the yellowish marks left on the associated materials.

Layer (1)—A disturbed layer containing humus.

(*b*) Northern Trench (Fig. 9)

In order to confirm the results derived from the excavation in the Test Pit, a trench, measuring 30 feet north-south and 10 feet east-west, in the north eastern corner of Mound 'A' was laid. The trench designated 'Northern Trench' falls in square 18/A, B, and C. Excavations here yield encouraging information and confirmed the results of the Test Pit. Virgin soil in the Northern Trench was reached at the depth of 14 feet[1]. In the entire cultural deposit of 14 feet a number of occupational levels were encountered. Some of them are well marked with rammed floors. At the depth of 4 feet from top a hard concrete rammed floor (4), 1-1/2 inches thick, was encountered. Kot Dijian type sherds, chert blades, bone points were among the finds recovered from the floor. Further removal of another 4 feet thick deposit exposed another floor (8), more or less of the same hard and compact nature as in (4). A profusion of pottery fragments, pieces of charcoal, bone fragments and gritty material were found resting on this rammed floor. Below (8), upto the earliest cultural deposit of (20) we come across floor levels in quick succession indicating hectic human activity during this period. The description of the layer deposition starting from the bottom is given as under:

Layer (20)—It is a 2½ feet thick compact deposit of the earliest settlement of Period I. Curiously enough, in this thick deposit the cultural material comprises very tiny peices of pottery bits and of charcoal. Two complete burnished pots (Pl. Xb) found in the middle of this comparatively barren deposit in an upside down position is a strange and baffling phenomenon.

Layer (19)—Cultural deposit of ashy soil marked with loose pockets yielded a few sherds of burnished and Kot Dijian type pottery. This layer marks the introduction of Period II in the Northern Trench.

Layer (18)—is a floor about 2 inches in thickness. The finds resting on it suggest a vigorous and effective period of occupation.

Layer (17)—Black, ashy and loose deposits containing potsherds, bone fragments and burnt earth found on the top of the floor (18).

Layer (16)—Deposit of ashy, clayey soil, containing some charcoal and potsherds.

Layer (15A)—is a floor of hard compact clay.

Layer (15)—composed of compact ashy clay in which loose ashy streaks can be observed. The deposit contained potsherds, bone fragments and charcoal.

Layer (14)—is a loose ashy deposit of cultural debris. Beside pottery, a fragment of worked bone was also recovered from this layer.

Layer (13)—is a floor of 1¼ inch thickness, hard and compact.

Layer (12)—is composed of brownish compact soil containing potsherds and charcoal. Layer (12) was disturbed by the foundation trench of a single coursed structure (Fig. 6) lying in the western section of the trench.

Layer (11)—is composed of ashy deposits, accumulated against its associated single-coursed structure of *Kanjur* stone. This structure associated with layer (11) is the earliest specimen of the structural remains in Period II. A worked bone piece was recovered from this layer.

Layer (10)—is a floor of 3 inches thickness.

Layer (9)—composed of loose ashy soil containing potsherds, bones, stones and charcoal. The bottom of (9) is marked with a thin, ashy deposit. It rests on top of floor marked (10) over which a number of terracotta bangle pieces and worked bone fragment were found.

Layer (8)—is a floor about 2 inches thick. Small stones have been used in its construction and its surface was rammed to make it even. This floor is associated with the accumulation of layers (7) and (6) above.

Layer (7)—composed of loose light grey soil containing potsherds, bone fragments, charcoal and pebbles. The associated floor below is marked (8) over which a number of terracotta bangle pieces and a flint blade were found.

Layer (6)—The composition of (6) is similar to layer (7), but it differs from the earlier layer in so far as it contains an increased number of potsherds and bone fragments.

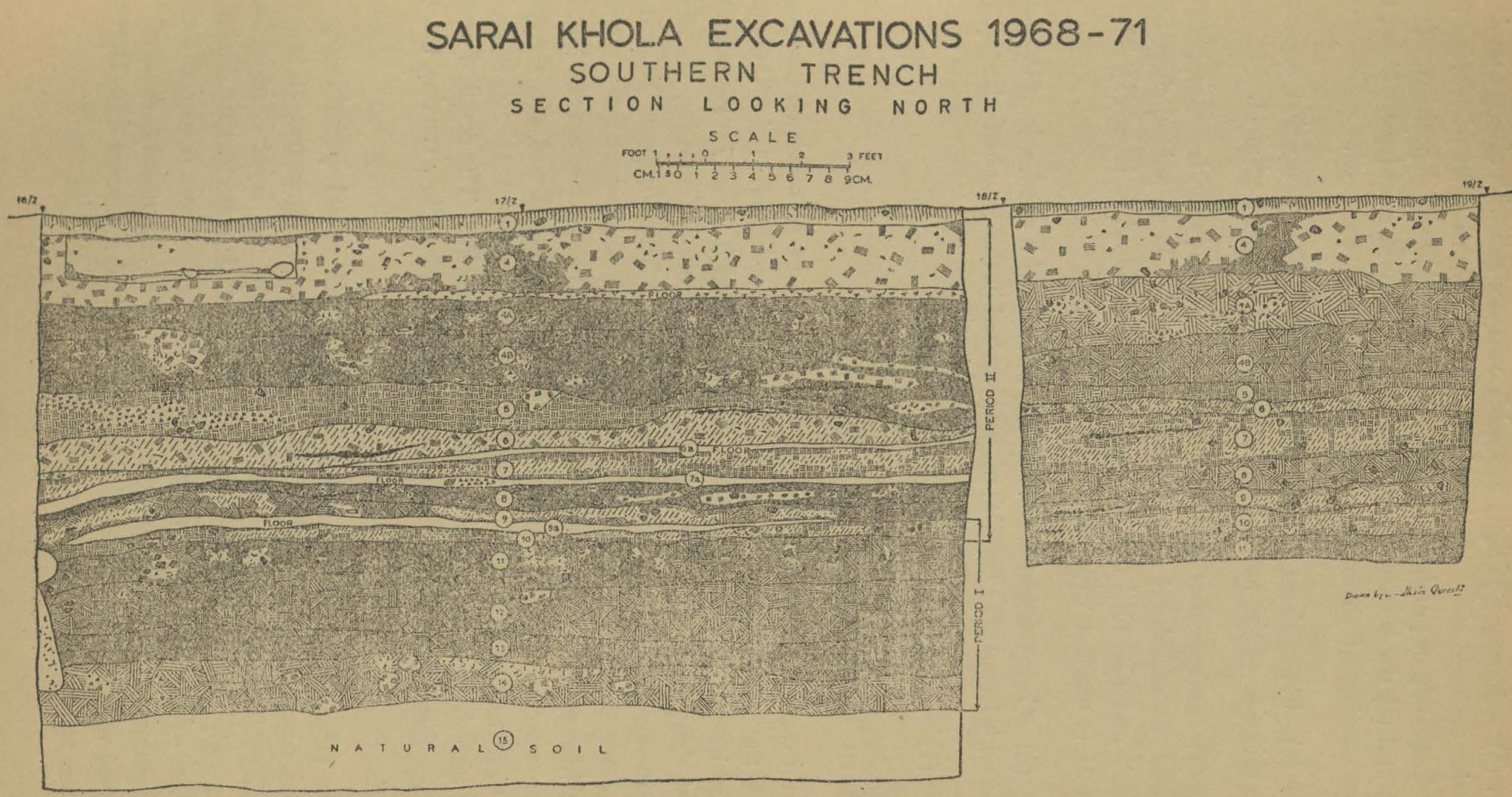

SARAI KHOLA EXCAVATIONS 1968-71
SOUTHERN TRENCH
SECTION LOOKING NORTH
SCALE
FOOT 1 0 1 2 3 FEET
CM. 1 0 1 2 3 4 5 6 7 8 9 CM.
16/Z
17/Z
18/Z
19/Z
FLOOR
FLOOR
FLOOR
FLOOR
PERIOD II
PERIOD I
NATURAL SOIL

Fig. 10

Layer (5)—composed of light brownish compact soil with clayey complexion all over the accumulation. It is mixed with gritty material of Kanjur stone with less frequancy of potsherds. It appears that during the deposition of these layers (6) and (5) the settlement on the mound, shifted elsewhere. From layer (5) a large number of terracotta bangle pieces were recovered.

Layer (4)—Floor about 2 inches in thickness. The occupation once again shifted to this side of the mound during the last phase of Period II.

Layer (3)—composed of light brownish loose soil mixed with stones, potsherds and charcoal. Its associated floor below is marked (4). Bone points, chert blades, stone chisels and Kot Diji type of potsherds were found in layer (3). The end of Period II is marked with the close of this layer.

Layer (2)—Composed of ashy loose clay, mixed with potsherds of Period IV. Associated with Layer (2) a rubbish pit was marked in the centre of the Sq. 18/C.

Layer (1)—Disturbed layer containing humus.

(*c*) **Southern Trench** (Fig. 10 and Pl. X)

The third point for vertical digging was selected on the southern edge of the mound in the same alignment as the other two trenches. This Trench, on account of its location, is designated Southern Trench (Fig. 7). Excavation in this trench brought to light the same features of cultural deposits, as already observed in the Test Pit and the Northern Trench. The Southern Trench falls in squares 16, 17 and 18/Y, Z and AA and extends southward from the third terrace of Mound 'A' to the lowest terrace (Fig. 7). The excavations in Southern Trench brought to light the remains of Period I, Period II and also the graves of Early Cemetery of Period III. The layers of the Southern Trench have been corelated with those of the upper terraces and the Test Pit. The detailed description of layer formation in the Southern Trench is given below starting from the bottom:—

Layer (14)—Composed of hard yellowish soil mixed prominently with kankar. Its composition is further characterized by the presence of loose circular pockets. The cultural material recovered from this layer is insignificant, containing only tiny pieces of pottery and charcoal. It appears that during the early phases of Period I some other part of the mound was occupied and the pieces of pottery and charcoal observed in this layer are actually decayed and disintegrated washed down material. Nothing could be recovered from layer (14) except a few soil samples for laboratory tests.

Layer (13)—is composed of hard, dark brownish compact earth mixed with charcoal, potsherds and a few bone fragments. It is in this layer that traces of a regular settlement in Period I are observed in this part of the mound, and from the character of the finds it may be assumed that the occupants were both powerful and prosperous. The bottom of layer (13) is marked by a thin floor. A number of burnished potsherds were found in this layer.

Layer (12)—Similar in composition to layer (13) but darker in colour as the frequency of charcoal in layer (12) increases. Marks burning were also observed in this layer (12) yielded, besides a number of burnished potsherds, a fragment of a stone celt.

Layer (11)—Composed of hard, dark brownish soil. It is further characterized by the presence of dark lumps of muddy earth. Layer (11) also yielded a quantity of burnished pottery fragments.

Layer (10)—Composed of compact dark brownish soil with an ashy tinge. It contains stone rubble and pottery fragments. The pottery recovered from layer (10) include pieces of burnished sherds and Kot Diji type pottery. It is in this layer that Period II appears to have started.

Layer (9)—It indicates a period of substantial occupation (Period II). Layer (9) is composed of hard, light brownish compact soil, further characterized by the presence of horizontal ashy streaks at places. Pottery fragments, charcoal, shell, a grinding slab and a stone hammer comprise the finds recovered from the layer. The bottom of layer (9) is marked by a 2 inches thick floor of compact yellowish earth which has been marked (9A).

Layer (8)—Composed of light greyish compact earth mixed with charcoal, pottery, stone and bone fragments. At places, this deposit contains ashy pockets.

Layer (7)—Compact in nature and is composed of ashy yellowish soil mixed with charcoal pieces, potsherds and bone fragments. The bottoms of (7) is marked with a $1\frac{1}{2}$ inch thick hard floor (7A).

Layer (6)—Composed of a predominantly greyish soil containing ashy streaks, yellow pockets, charcoal pieces, stones and pottery fragments. Its associated floor below is marked (6A), about 2 inches thick and made of hard and compact gritty material. A stone celt with a polished sharp cutting edge, a terracotta figurine of a ram and a crucible with a number of potsherds were found resting on the floor (6A).

Layer (5)—Composed of yellowish hard soil mixed with a number of potsherds, and stones. Charcoal fragments can also be observed in the composition of this layer. It is further characteiized by the presence of pockets of loose soil.

Layer (*4B*) *and* (*4A*)—Composed of predominantly greyish soil containing ashy streaks, yellowish pockets, characoal, stones and potsherds. Terracotta bangle fragments have been recovered from both the layers. There is nothing to indicate a definite occupational level in these two layers which are separated by thin streaks.

Layer (4)—Immediately below layer (1) which is the top soil disturbed by the modern farmer, appears layer (4). It is composed of dark soil mixed with kankar, potsherds, bone fragments and stone rubble. Layers (3) and (2) are missing in this area. Layer (4) is divided by a thin layer of kankar from its sub-layers (4A) and (4B). These layers are identical in their composition. The dividing line of kankar between the main layer and sub-layers may suggest an occupation level (Pl. IV). The excavation immediate north of the Southern Trench in Trench 'A' revealed pottery jars resting on the floor of rammed kankar which divides layer (4) from (4A) in the Southern Trench.

In square 16/Y of Southern Trench a grave of Early Cemetery (Period III) was found (Fig. 7). It is about 11 inches deep and 6 feet long oiiented in east-west direction. It was in layer (4) that people of the Early Cemetery of Period III dug the graves for disposal of their dead.

Layer (1)—Contains humus.

(*d*) **Trench 'A'** (Fig. 11b, 11c and Pl. XI)

In order to corelate the layers of Test Pit with those of the Southern Trench on the third terrace, the area between the two trenches was selected for the horizontal as well as vertical operations. The other main object of the excavations in this trench was to reach and explore two earliest phases of the settlement in a large and wider area. The selected area, measuring 30 feet east-west and 110 feet north-south and covering the first, second and third terraces of Mound 'A' falls in squares 16, 17 and 18/N, O, P, Q, R, S, T, U, V, W and X. It was designated Trench 'A' (Fig. 7) and dug down to a maximum depth of 17 feet. The virgin soil in this trench was encountered at the depth of 14 feet, and in this accumulation 13 layers of cultural deposit were encountered. The excavations in Trench 'A' revealed the remains of Late Neolithic culture at the bottom followed by a Kot

Diji, Cemetery and early medieval phases upwards. The results obtained from excavations in Trench 'A' are described below:—

Layer (14)—Natural Soil

Layer (13)—Composed of hard yellowish soil miexed with kankar. Some charcoal was recovered from this layer. It is totally without potsherds and other cultural material. The composition of this layer is further characterized by the presence of loose circular pockets. The charcoal in this layer represents washed down material some of which was preserved for laboratory test.

Layer (12)—Composed of compact dark brownish earth mixed with a small quantity of burnished pottery. Tıaces of first human occupation at Sarai Khola were observed in this layer. A fire place (Pl. XIIa) exposed in Sq. 17/X is the earliest indication of human occupation at this site.

Layer (11)—This is composed of compact dark brownish soil mixed with charcoal. The pottery recovered from this layer include large-sized bowls and vessels of red burnished ware (Neolithic). In Sq. 17/W and X the bottom of this level is marked by the effects of fire and it gives a rusty reddish complexion which is perhaps due to an extensive burning process.

Layer (10)—is composed of dark brownish soil mixed with stone rubble and charcoal. The pottery recovered from this layer is of two periods *i.e.* Period I and II which indicates the transitional character of the deposits. It is here that Kot Dijian type material made its first appearance and infiltrated into the deposits of Late Neolithic occupation. Both the new and old ceramics remained in use together for sometime but the Kot Dijian type became predominant.

Layer (9)—is composed of compact brown yellowish soil mixed with stone rubble, charcoal and ashy streaks. Associated with this layer, refuse pits of circular shape were encountered (Pl. XIIb). These pits contained a large quantity of potsherds, bone fragments and ashy material. Bone pioints, stone celts and chert blades have been recovered from this layer. Pottery specimens include handmade and wheel-turned sherds.

Layer (8)—A loose dark ashy deposit of 9 inches thickness. Its associated occupational level was encountered in Sq. Nos. 18/S, 17 and 18/T, U and V at the depth of 9 feet 7 inches. The floor of layer (8) is marked with potsherds, grinding stones and slabs, fire places (Pl. XIIIa) and animal bones.

A number of refuse pits of circular shape were recorded in association with this layer (P. XIIb). The pits contained potsherds and ashy material. The antiquities recovered from this layer include stone celts, chisels, bone points, tiny disc beads, terracotta miniature pots, crucible, dishes, chert blades, scrapers and wasters. The most interesting finds from this layer are two terracotta female figurines.

Layer (7)—is composed of loose yellowish ashy soil mixed with increased number of ashy material. Ashy streaks can be observed in the entire layer. The layer (7) is a one foot three inches thick deposit. Its associated floor is recorded in Sq. Nos. 17 and 18/W and X. In this layer a large number of circular shaped rubbish pits were encountered in Sq. 17/T, U and V near the western section.

Layer (6)—In order to preserve the structural remains exposed in Sq. 17 and 18/Q in association with layer (5) (Pl. XVIIIa and Fig. 12) the area under excavation was further reduced and Sq. 17 and 18/S, T, U, V, W and X were taken up for vertical excavations, which revealed Layer (6), composed of light brownish compact earth mixed with potsherds, stone rubble and charcoal throughout the trench. The associated occupational floor was encountered in Sq. Nos. 17 and 18/V, W and X. It was made of hard rammed earth. Burn marks were observed all over the floor on which was found a large number of potsherds, similar in shape and decoration as found at Kot Diji and in the upper layers of Period II at Sarai Khola. Other antiquities found on the floor include stone celt and chisels, chert and flint blads, bone points, copper nail cutter, pin, needles with eye, tiny paste disc-beads and terracotta animal figurines.

After the excavation of layer (4) an area free from graves and measuring 20 feet east-west and 100 feet north-south along the eastern section of the Trench 'A' was selected for vertical digging. This area falls in Sq. Nos. 17 and 18/N, O, P, Q, R, S,T, U, V, W, and X.

Layer (5)—is a thin layer, its thicker portion being only composed of hard black yellowish earth mixed with a large quantity of kankar, stone pebbles and rubble. A two-coursed stone rubble structure in Sq. 17/Q and 18/Q has been exposed and is associated with this layer (Pl. XVIIIa and Fig. 12). On the floor, associated with this structure, was found a large number of potsherds, pottery ladles, chert blades, stone chisels, bone points and charcoal. Throughout the trench the bottom of this layer is affected by fire marks (Pl. XIIIb). A number of post-holes of different dimensions were found in this level which have pene-

trated deep into the lower layer (6) (Pl. XIVa). These post holes were clearly marked by soft loose soil in the centre surrounded by kankar and gritty material. The loose soil obviously indicates the decomposed remains of the wooden post. And interesting phenomena has been observed in this trench. The post-holes cover an area which is roughly rectangular in shape. The centre of this area is occupied by a fire place with a concentration of potsherds around (Pl. XIIIb).

Layer (4)—A 1-3/4 feet thick deposit of hard brownish earth mixed with stone rubble and potsherds. Associated with layer (4), a well marked occupation level in Sq. No. 17/Q, 18/O, 17/R and 18/R was encountered. This occupation is well attested by the presence of potsherds resting on thier bases, animal bones, charcoal and fire marks. Towards south, the accumulation becomes thinner and it slopes in that direction. This layer marks the end of Period II at Sarai Khola. It appears that after the deposition of layer (4). The site remained deserted for a very long time until it was selected for the disposal of the dead in Period III (c. 1000 B.C.).

CEMETERY

After the removal of layer (3) from trench 'A' a large number of grave pits were observed which go deeper into the lower layer (4), (Pl. XXb). These pits are rectangular in shape and extend in east-west direction. Inside the pits complete human burials (Pl. XXIa) were found (for details see chapter on the Cemetery).

Layer (3)—is a featureless, dull and a disturbed thick porous deposit. There is hardly any trace of occupation. The thickness of the layer is not uniform, it varies from place to place and could only be traced on the 1st Terrace. The general picture of layer (3) in Trench 'A' and 'B' suggests that the deposit is the result of human agencies. It appears that the people who dug the grave in layer (4) deposited their excavated earth after filling up the graves on the northern part of Mound 'A'. Here excavations did not reveal any grave of the Early Cemetery. The people of Late Cemetery also seems to have followed the same practice. They, in their turn, selected the high portion of the mound on the north for the disposal of their dead and deposited the extra earth on the southern lower side of the mound, and in doing so, they covered the graves of the early cemetery. In this process, the entrie top surface of the mound became even.

Late Cemetery—Removal of floor (2A) revealed layer (3). On the top of the layer (3), in the northern part of Trench 'A', stone pebbles were found lying

in east-west direction. The concentration of stones in some formation proved to be the sealing stones of the graves of Late Cemetery of Period III (For detail see Chap. 3.)

Layer (2)—All over in Trench 'A', layer (2) is composed of ashy, loose material containing potsherds, stone rubble and a wealth of minor antiquities. Layer (2) indicates intensive occupation during Period IV on the site which probably is also the last. Its associated floor (2A) is of hard beaten earth about 2 to 3 inches in thickness (Fig. 11b & 11c). The remains of Period IV associated with layer (2) in the northern half of Trench 'A' have been recorded only on the top two terraces of Mound 'A'. The cultural deposits were missing on the third terrace of Mound 'A'. Stone walls (Pl. XVIIIa, XXb and Fig. 13), soak pits (Pl. XV and XVIb) and sanitary pits (Pl. XVa) associated with the last occupation level of Period IV have been brought to light. The last occupation is further marked by the presence of hearths (Pl. XIVb and XVIIIa) and burn marks on (2A) (Fig. 13). Identical features came to light in the trench excavated on the west of Trench 'A', (Pl. XVIIIa) and also in Trench 'B' situated on the north of Trench 'A'.

Layer (1)—Disturbed layer containing humus.

(*e*) **Trench B** (Fig. 11d)

The area between the Northern Trench and the Test Pit was designated Trench B (Fig. 7). It was selected for horizontal excavations with a view to solving major problems. The main purpose was to determine the extent of the Cemetery of Period III and to collect some other information related to it. Secondly, since the remains of Period IV existed on the two top terraees, it was necessary to examine the area lying north of the Test Pit. Both problems were solved by the excavations of Trench 'B'. Remains of Period IV were exposed in a larger area and a great number of rubbish pits (Pl. XVIb) were encountered in association with stone structures. A good number of graves of Late Cemetery of Period III were also revealed in Trench 'B' and significant information was obtained regarding the customs and rituals of the people of Period III. The major part of the Trench has been excavated upto grave level but a small portion of the Trench adjacent to the Northern Trench was excavated down to layer (5) and the same portion was extended 20 feet towards the east (Fig. 7). The purpose was to uncover the structural remains of Period II and their associated occupational levels (Pl. XVII).

The sequence of layers in Trench B" is described below starting from the top.

Layer (1)—Loose disturbed soil containing humus.

Layer (2)—The major composition of layer (2) in Trench 'B' is loose ashy soil mixed with a large number of potsherds and stone rubble. Burnt marks and traces of a floor have been recorded at the bottom of layer (2) indicating a definite occupation level. A wealth of antiquities has also been recovered from layer (2). The thin rammed mud floor at the bottom of layer (2) is marked (2A). The floor extends northwards from the Test Pit and has been recorded 30 feet in length. This floor was found disturbed at a number of places by sanitary and rubbish pits of slightly later date (Fig. 11d).

The removal of layers (2) and (2A) revealed a large number of stone pebbles lying in groups in an east-west direction (Pl. XVIb and Fig. 14) which were subsequently found to be the sealing stones of the graves of Late Cemetery of Period III. A large number of graves were marked and excavated in Trench 'B'. The information obtained by the excavation of these graves was of prime importance (for details see Chapter on the Cemetery).

Layer (3)—The composition of layer (3) in Trench 'B' is more or less same as recorded in other trenches. It is composed of loose disturbed soil, which contained few potsherds of Period II and a large quantity of stone rubble. Nowhere in the trench could any sign of occupation be observed. This confirmed the results obtained from the excavations of the Test Pit and Trench 'A'.

Layer (4)—is a compact layer of light brownish earth, containing potsherds, charcoal and chert implements of Period II. This layer was excavated in a restricted area in Trench 'B'. In association with layer (4) was exposed a wall of stone rubble built in random-coursed masonary (Pl. XVII). Associated with this structure a well-defined occupational levels was exposed in Sq. 18 and 19, D, E and F (Pl. XVII). The wall was found disturbed by two rubbish pits of later period.

Layer (5)—Below layer (4) yellowish soft clay was encountered and was designated (5) which is also marked by an occupation level (Pl. XVII) as attested by the presence of potsherds, terracotta bangle fragments and paste beads. Other signs of occupation include fire-marks and charcoal. The trench could not be dug further owing to heavy rains.

Structures

At Sarai Khola, excavations did not reveal much structural remains. Whatever has been recovered, is very unimpressive and reflects poor building activity of the inhabitants, but it is evident that Sarai Khola people, at least in Period II and IV, built their structures with stone rubble set in mud mortar. In Period II, the early builders used medium size river pebbles which were readily available from the near by *Kala Nala.* In Period IV, evidently, the people used stones from the *Kala Nala* and also the sealing stones of the Late Cemetery graves of Period III.

Period I

No evidence of building activity was encountered in Period I. It is, therefore, presumed that the people lived in dwellings of perishable material.

Period II

This period witnessed scanty building activity owing to the fact that most of the people lived in huts. This is evident from the number of post-holes found associated with layer (5) (Pl. XIVa). These post-holes, varying in shape and size, were found filled with kankar and gritty material with decomposed remains in the centre. The loose soft soil in the centre of the holes indicate the sizes of the wooden posts which were not uniform. The fire places and concentration of pottery (Pl. XIII) was found within the area enclosed by the post-holes which thus mark the size and shape of the huts. Unfortunately, they extend outside the trenches where we have not excavated, but from the remains already uncovered, it can fairly be presumed that these dwellings were of rectangular shape.

The structural remains of Period II were encountered at three points *i.e.*, in the Northern Trench, Trench A and Trench B. Due to limited excavation and meagre structural remains, it is not, at present, possible to sub-divide Period II on the basis of this evidence alone. However, if excavations are resumed in future and more structural remains uncovered, we may be able to throw more light on the building activities of the people of Period II, Only then it would be possible to corelate the structural remains with the associated occupation levels and finds all over the site.

(*a*) *Northern Trench :*

The earliest structural remains of one course was encountered in Northern Trench associated with layer (II) (Fig. 9). The material used in the construction of this structure is *Kanjar* stone.

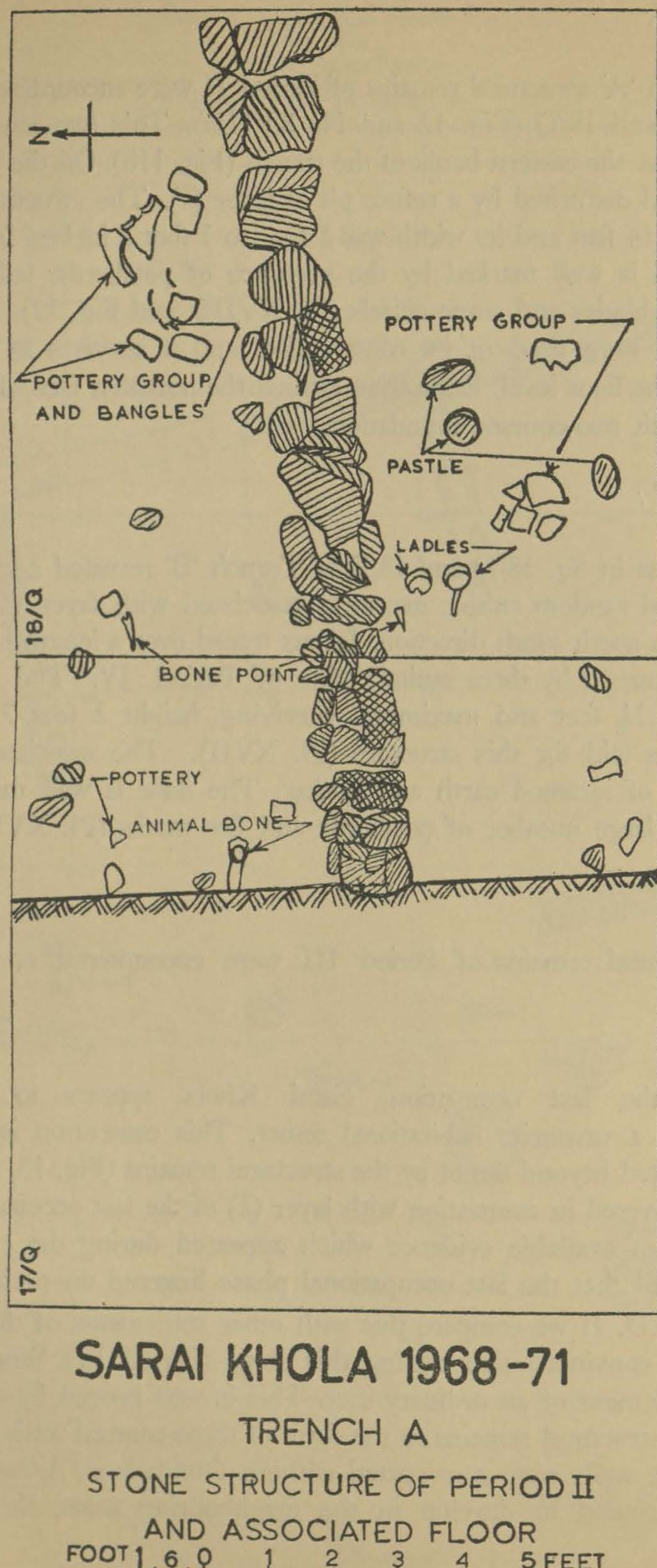

N
POTTERY GROUP
AND BANGLES
POTTERY GROUP
PASTLE
LADLES
18/Q
BONE POINT
POTTERY
ANIMAL BONE
17/Q
SARAI KHOLA 1968-71
TRENCH A
STONE STRUCTURE OF PERIOD II
AND ASSOCIATED FLOOR
FOOT 1 .6 0 1 2 3 4 5 FEET
CM2 0 2 4 6 8 10 12CM.
SCALE

Fig. 12

(*b*) *Trench A:*

In Trench 'A' structural remains of Period II were encountered in layer (5) in Sq. 17/Q and 18/Q (Fig. 12 and Pl. XVIIIa). This two-coursed structure part lylay under the eastern baulk of the trench (Fig. 11b). On the western side it has been found disturbed by a refuse pit of layer (4). The structure was traced to a length of 14 feet and its width was 1 foot to 1 foot 2 inches. Its corresponding floor level is well marked by the presence of potsherds, ladles, terracotta bangles, chert blades and stone chisels (Pl. XVIIIa and Fig. 12). Medium sized stone pebbles were used in its construction and it survives to a height of 8 inches from the floor level. Excavation against the northern face of the structure also revealed sit two-coursed foundation.

(*c*) *Trench 'B':*

Excavations in Sq. 18/D and 18/E of Trench 'B' revealed a structure built in semi-coursed random rubble masonry, associated with layer (4) (Pl. XVII) and running in north south direction. It was traced over a length of 21 feet and was found disturbed by three sanitary pits of Period IV. The width of the structure was 2½ feet and maximum surviving height 2 feet 7 inches. No foundation was laid for this structure (Pl. XVII). The associated floor (4A) was made up of rammed earth and kankar. The floor is well marked by the presence of a large number of potsherds and fire marks (Pl. XVII).

Period III

No structural remains of Period III were encountered at Sarai Khola.

Period IV

During the last occupation, Sarai Khola appears to have lost its importance as a vavourite habitational resort. This contention is well proved and substantiated beyond doubt by the structural remains (Fig. 13, Pl. XVII and XVIIIb) uncovered in association with layer (2) of the last occupational period. On the basis of available evidence which appeared during the excavations, it can be assumed that the last occupational phase lingered on perhaps upto the 8th century A.D. If we compare this with other settlements of this period, we become more convinced that during this stage (Period IV) Sarai Khola had become a settlement of an ordinary sort. This is well proved by the weak and unimpressive structural remains in the form of three-coursed walls (Pl. XVIIIb) and even these walls were constructed without foundations. Although building technique continued to develop in the neighbouring areas, the late period

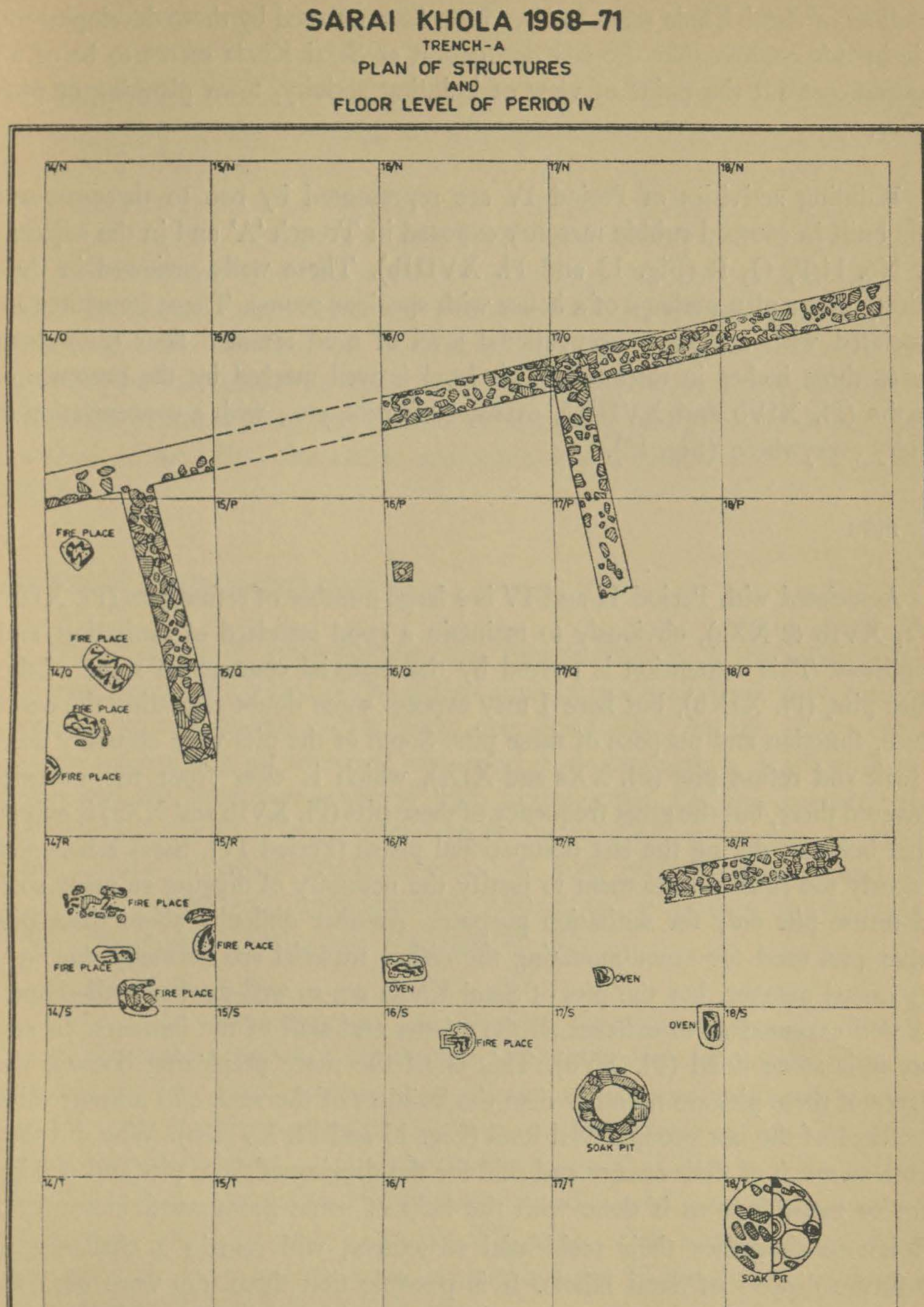

SARAI KHOLA 1968–71
TRENCH-A
PLAN OF STRUCTURES
AND
FLOOR LEVEL OF PERIOD IV
14/N
15/N
16/N
17/N
18/N
14/O
15/O
16/O
17/O
15/P
16/P
17/P
18/P
FIRE PLACE
FIRE PLACE
14/Q
15/Q
16/Q
17/Q
18/Q
FIRE PLACE
FIRE PLACE
14/R
15/R
16/R
17/R
18/R
FIRE PLACE
FIRE PLACE
FIRE PLACE
FIRE PLACE
OVEN
OVEN
14/S
15/S
16/S
17/S
OVEN
18/S
FIRE PLACE
SOAK PIT
14/T
15/T
16/T
17/T
18/T
SOAK PIT
14/U
15/U
16/U
17/U
18/U
SCALE
0 1 2 3 4 5 6 7 8 9 10 FEET
FIRE PLACE

Fig. 13

dewellers of Sarai Khola seem to have been least effected by those developments. It is in this context that the last occupation at Sarai Khola seems to be of no importance from the point of view of building activity, town planning or prosperity.

Building activities of Period IV are represented by two to three-coursed walls built in coursed rubble masonry exposed in Trench 'A' and in the adjacent Sq. No. 14/P, Q, R (Fig. 13 and Pl. XVIIIb). These walls reviewed in their entirety give a plan perhaps of a house with spacious rooms. These structures are associated with a definite occupational level of mud rammed floor (2A) about two to three inches in thickness. This level is well marked by the presence of hearths (Pl. XIVb and XVIIIb), ovens, soak pits, etc., with a concentration of pottery everywhere (Fig. 13).

H. PITS

Associated with Period II and IV is a large number of refuse pits (Pl. XIIb, XVa, XVIb & XXa), obviously to maintain a good standard of sanitation and cleanliness. This contention is proved by the material contents of some of the refuse pits, (Pl. XIXb), but here I may express some doubt regarding the exact nature, function and purpose of these pits. Some of the pits were certainly used as soak and refuse pits (Pl. XXa and XIX), which is clear from the material recovered there, but the great frequency of these pits (Pl. XVIb and XXa) is exceptional because, during the last occupational phase (Period IV), Sarai Khola was evidently too small a settlement to justify the necessity of digging so many soak and refuse pits only for sanitation purposes. Another difficulty about these pits is that pits used for accommodating the refuse material are normally dug in a very casual manner, but the pits of Sarai Khola are so well-marked well-shaped and well executed as to exhaust all the talents and skill of the builders. In one case, it is stone lined (Pl. XVb). This is all the more preplexing because the diggers of these pits are no other than the builders of the weak and unimpressive structures of the last occupational level (Fig. 13 and Pl. XVIIIb). Why did they devote so much of their energy and skill for the digging of these pits and making them so meticulous as if done with the help of some geometrical instruments and ignore altogether their residential structures, will remain a challange to the future diggers of Sarai Khola. It is possible that these pits were used for the performance of some ceremony or rituals, and this appears especially so when in one of the pits of Period IV, five large size storage jars were found in an upside down position (Pl. XVIa). It seems clear that these jars were certainly not refuse material. Similar pits are known to have been uncovered at Balambat.

THE CEMETERY

The Sarai Khola cemetery, belonging to Period III, has two distinct phases: Early and Late. These were laid out on a regular plan with the graves, oriented in east-west direction, dug in parallel rows (Pl. XXI, Figs. 14 and 15). The slight variation in the direction of grave orientation is perhaps due to the seasonal change of direction of sun-rise. Male and female burials can be distinguished with some certainty from the postures[1]. Generally, the males and females were buried in separate rows[2]. However, it seems that due to insufficient civic controll, or shortage of space, the method of burying male and female separately could not be maintained for long. Later graves have been dug in between the two earlier graves without any regard for separating males from females, as was practised earlier. Thus the earlier arrangement was disturbed (Pl. XXIIIa and XXIXa).

METHOD OF GRAVE CONSTRUCTION:

The method of grave-digging and construction is simple although not uniform. During the period of the Early Cemetery, the rectangular area, measured according to the stature of the body, was demarcated on the surface of the ground, generally in an east-west alignment, and dug upto a depth of 9 to 11 inches and the floor was hardened with beaten earth. On this prepared floor the body was placed. The excavated earth was re-filled by ramming it into the grave pit and the top of the grave was made flush with the then ground level (Pl. XXb). At the end, each grave-pit was marked by placing two stones, one at the head and the other near the feet (Pl. XXb).

In the Late Cemetery, except in one case, the orientation is identical with that of the early period but the method of construction was slightly different (Fig. 16). In the Late Cemetery, after filling the excavated earth into the grave upto the ground level, the top of the grave was secured and sealed (Fig. 13) with large and medium size river pebbles (Fig. 14, 16 and Pl. XVIb, XXVIa, XXVIIIa and XXVIIIc,). The depth of the grave pits of Late Cemetery is sometimes greater than that of the Early Cemetery (Fig. 16). This method of grave construction had led us to use the following terminology. The grave stones, the grave pit, the grave floor and the sealing stones.

1. Wolfran Bernhard, Preliminary Report on the Human Skeletal Remains from the Prehistoric Cemetery of Sarai Khala, *Pakistan Archaeology* No. 6, 1969 (Karachi) pp. 103-104.

2. Ibid, p. 104.

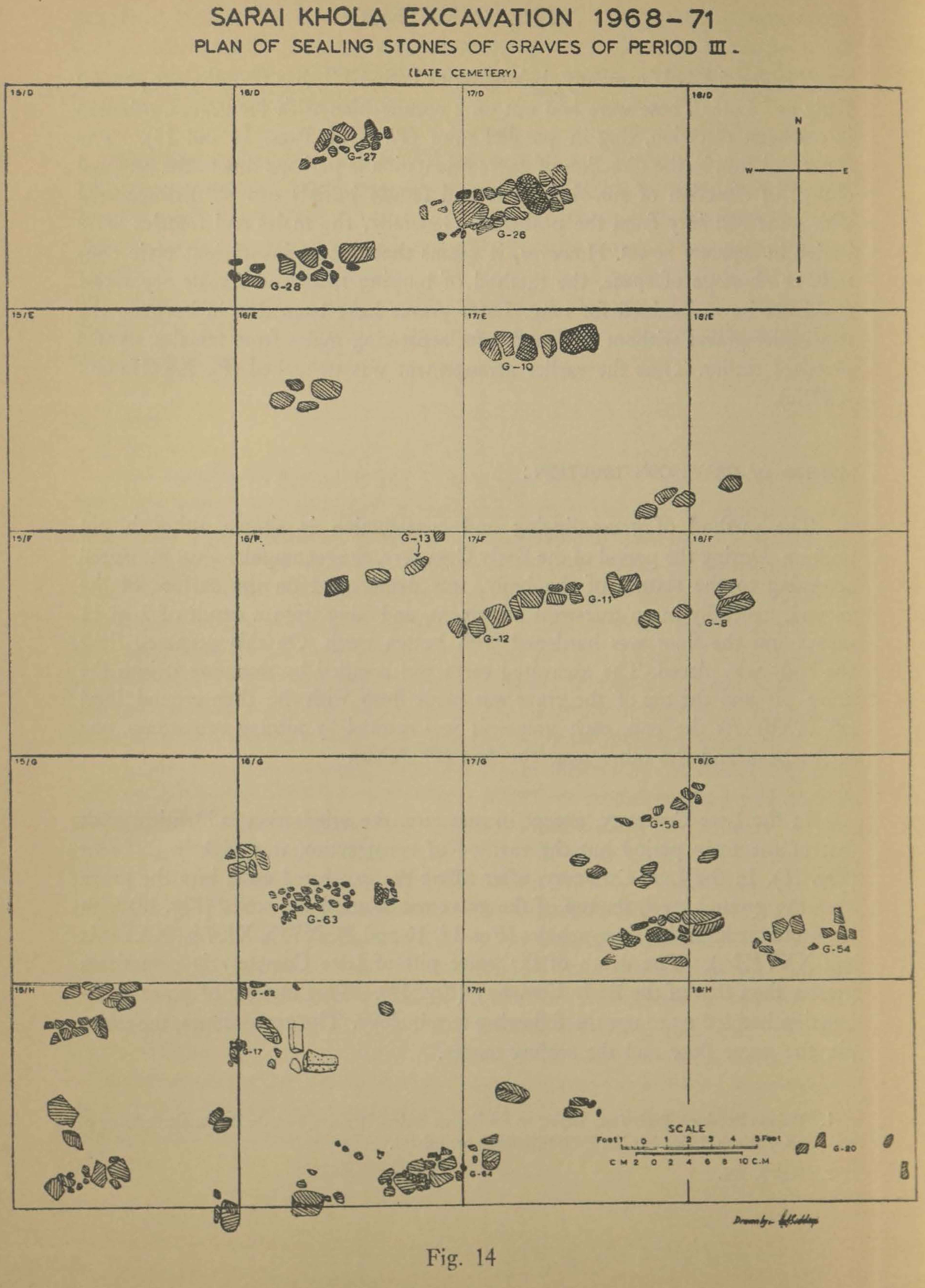

SARAI KHOLA EXCAVATION 1968-71
PLAN OF SEALING STONES OF GRAVES OF PERIOD III.
(LATE CEMETERY)
15/D
16/D
17/D
18/D
N
W
E
S
G-27
G-26
G-28
15/E
16/E
17/E
18/E
G-10
15/F
16/F
G-13
17/F
18/F
G-11
G-8
G-12
15/G
16/G
17/G
18/G
G-58
G-63
G-54
15/H
G-62
17/H
18/H
G-17
SCALE
G-20
G-64

Fig. 14

BURIAL CUSTOMS:

The two Cemeteries are totally without grave furniture and we have therefore to depend entirely upon the evidence of the material recovered as a result of the grave excavations of Period III. This makes it sufficiently clear that we are dealing with a people who used iron at least in the late Period, although it was not yet very common. A small number of iron objects have been recovered which include two finger rings, two tiny claps for bracelet of tiny paste beads and one unidentified iron object (probably the lower part of a spear-head).

All the skeletons exposed so far were found laid on the back. The heads, with gaping mouth, rest either on the right or the left cheek facing north or south and sometimes on the occiput facing skyward. The arms of the dead are placed in different postitions according to sex and age. It should be pointed out that sex played an important role in the formation of burial customs of the age. We have already stated that men and women were buried in seperate rows and in different postures, so that male and female burials can be distinguished with some certainty. Women of different age groups were buried in different postures and great care was taken in their disposal as perhaps, because woman was regarded the member of society most to be respected. From the postures of the female burials and the insufficient depth of grave pits, it appears that the dead were perhaps buried nude and for observing the sanctity of womenhood, the hands were placed in the pelvic region and on the breasts to cover the sources of fertility. Peoples of different sex and age were buried in the following postures.

Adult males were buried in an east-west direction on their backs with arms stretched parallel to the body (Pl. XXIIIb, XXIVc, XXIVd, XXV, XXVIIIb and XXIXb). Young boys of different age groups were buried with arms stretched parallel to the body. One leg, right or left, was slightly bent, so that the foot touched the ankle.

Adult females were also buried in the same direction as their male counterparts but their hands were placed in the pelvic region (Pl. XXIVb). In most of the cases the left or right hand was placed in the pelvic region while the other arm was stretched parallel to the body. (Pl. XXIIa, XXIIIa, XXVIb, XXVIIb, XXVIIc, XXVIIIb, XXVIIId and XXIXa). Young girls, perhaps unmarried, were buried with one hand in the pelvic region and the other crossed over the navel and holding the first hand on the opposits side (Pl. XXIIb and XXVId, In other cases, one hand was placed, in the usual manner, on the pelvic region and the other lay on the opposite shoulder covering the breast (Pl. XXIId and XXVIc). Teenage girls were buried in the same

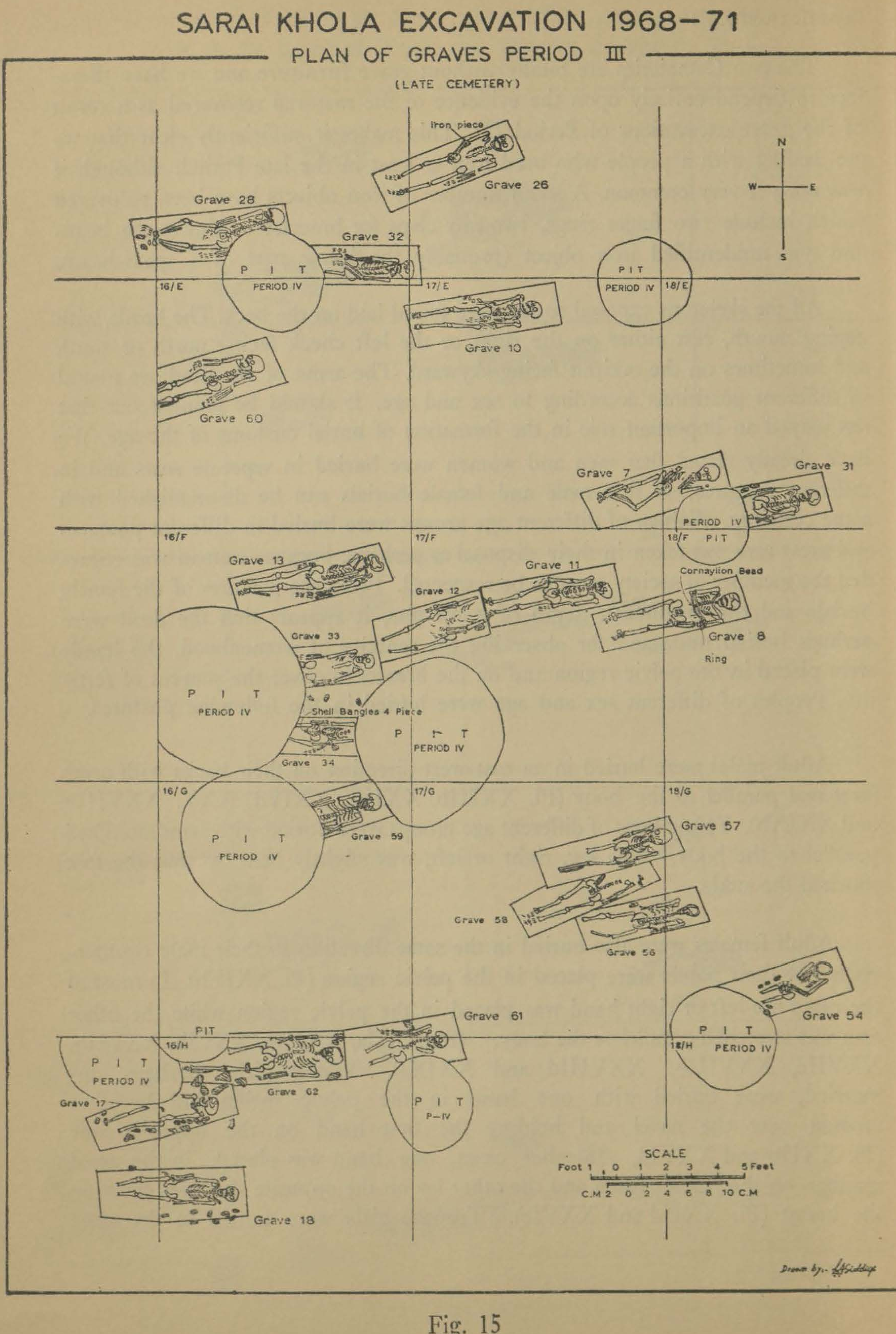

SARAI KHOLA EXCAVATION 1968–71
PLAN OF GRAVES PERIOD III
(LATE CEMETERY)
Iron piece
Grave 26
Grave 28
Grave 32
PIT
PERIOD IV
16/E
17/E
18/E
Grave 10
Grave 60
Grave 7
Grave 31
16/F
17/F
18/F
Grave 13
Grave 11
Cornaylion Bead
Grave 12
Grave 8
Ring
Grave 33
Shell Bangles 4 Piece
Grave 34
16/G
17/G
18/G
Grave 59
Grave 57
Grave 58
Grave 56
Grave 61
Grave 54
16/H
18/H
Grave 62
Grave 17
P–IV
Grave 18
SCALE
Foot 1 0 1 2 3 4 5 Feet
C.M 2 0 2 4 6 8 10 C.M
N
W
E
S

Fig. 15

position as boys, but with the above variation of hand positions. In all cases of girls, one hand was in variably placed in the pelvic region (Pl. XXIIc).

Children were buried with one leg slightly bent so that one foot touched the other leg. Minor children were buried, perhaps, without taking their sex into account, because children have been found buried with arms placed parallel to the body and legs slightly bent externally so that the feet touched each other.

SOCIAL LIFE :

Due to the small quantity of material remains discovered during the operations, not much can be said about the cultural life of the people of Period III. However, the little which is gleaned from the available material may be described.

It appears that women perhaps enjoyed greater privileges and were regarded as the members of society most to be respected. The sanctity of womenhood was guarded even after death. The elevated position of women was perhaps due to their being the only known symbol of fertility and it may be surmised that during that age phallus worship was not practised and only woman was venerated for her generative powers. The phallus worship, therefore, must have been a later development out of jealousy on the part of males.

Both male and female used ornaments. This is evident from two iron finger rigns and an bracelet of beads recovered from Late Cemetery graves of both sexes.

GRAVES OF EARLY CEMETERY:

Fifty seven graves belonging to Early Cemetery have so far been brought to light in Trench A. All the graves of the Early Cemetery were found with one exception oriented in an east-west direction. Generally, the skeletons were found in a good state of preservation but, occasionally, the older graves had already been disturbed, apparently for lack of space. The graves of Early Cemetery were numbered G-1, G-2, G-3, G-4 and so on, as they were uncovered in the course of excavations. Those skeletons removed from Sarai Khola for anthropological studies have been marked SKH 1, SKH 2, SKH 3, SKH 4 and so in, according to the number of graves. The detailed description of the grave excavation is given as under:

Grave No. 1 (*Pl. XXI-b*) :

The grave was located in Sq. 16/0 along the western baulk, 3 feet 11 inches below the present ground surface (Fig. IIc). The grave pit was 10 inches deep. The length and width of the grave could not be measured because half of the grave was under the baulk. The grave was found further disturbed by the grave

on the north under a baulk. A complete burial of a fairly young female was found inside the grave, laid on her back. The skull with gaping mouth was slightly turned towards the north with left arm found stretched parallel to the body and the right placed in the pelvic region.

Grave No. 2 (*Pl. XXI-b*) :

This grave was located in Sq. 16/0. Measurements of the grave, extending east-west, could not be recorded due to disturbance. The grave pit was 11 inches deep. Inside the grave was a complete burial of fairly well built female laid on her back. The head, with gaping mouth, was turned to the north. Both arms are slightly bent and it appears that the hands were placed in the pelvic region.

Grave No. 3 (*Pl. XXII-a*) :

This grave was located in Sq. 16/P along the western baulk, 3 feet 9 inches below the present surface (Fig. 11c). The grave, extending east-west, measured 1 foot 8 inches wide and 13 inches deep. The grave partly lay under the western baulk. Inside the grave was a complete burial of a fairly aged female, laid on her back with head slightly damaged, perhaps by pressure. The head, with gaping mouth and resting on the occiput, was slightly turned to north. The left arm was slightly bent with the hand placed in the pelvic region. The right arms was stretched parallel to the body.

Grave No. 4 :

The grave was located in Sq. 16/P along the western baulk, 3 feet 7½ inches below the present surface (Fig. 11c). The grave, extending east-west, partly lay under the western baulk. The grave measures 1 foot 10 inches wide and was 11 inches deep. Inside the grave was a complete female burial on her back on the grave floor. The right hand was placed on the right femur while the left arm was stretched parallel to the body. The skull was found completely damaged.

Grave No. 5 :

Grave 5 was located in Sq. 16/P alongwith the western baulk, 3 feet 10 inches below the present surface (Fig. 11c). Extending east-west, it measured 1 foot 10 inches wide and 11 inches deep. Inside the grave was a complete burial of a male laid on the back with arms stretched parallel to the body. The head, resting on the occiput, was turned southward.

Grave No. 6 :

The grave was located in Sq. 16/Q. The pit measured 1 foot 7 inches by 1 foot 1½ inches containing a complete skeleton of a child in a very poor state of preservation. The skull, badly damaged, faced northward. The right leg was slightly bent while the left leg, completely bent, was riding the right knee. The right hand was holding the left ankle while the left arm was stretched parallel to the body.

Grave No. 7 :

This grave was located in Sq. 16/O, 3 feet 8 inches below the present surface. Disturbance was observed and a fragmentary skeleton of a teenage boy, lying on his back, was exposed. The skull was found damaged while the right lower half portion of the skeleton was missing. The arms were stretched parallel to the body with the left leg slightly bent.

Grave No. 8 :

The grave was located partly in Sq. No. 16/O and 17/O, 3 feet 4 inches from the present surface. The grave pit measured 1 foot 7 inches wide and 9 inches deep and partly lay under the baulks. The post-cranial portion of a female skeleton was exposed but we can determine the position of burial. The left arm was bent and the hand was placed on the pelvis. The right arm is stretched parallel to the body. The skeleton is of a fairly young and well-built female.

Grave No. 9 :

This grave was located in Sq. No. 16/O and 17/O, 3 feet 4 inches below the present surface. The grave pit measured 1 foot 8 inches wide and 2 inches deep and lay partly under a baulk. Inside the grave was the complete burial of a heavily built male with arms stretched parallel to the body and skull resting on the right cheek. This was recovered from the baulk for anthropological studies.

Grave No. 10 :

This grave, located in Sq. 16/P and 17/P, is 3 feet 5 inches below present surface, partly under a baulk. The grave pit measures 2 feet wide and 10 inches deep. The excavations of G-10 revealed the complete skeleton of a heavily built male laying on his back with arms stretched parallel and placed closed to the body. The right leg is slightly bent and both the feet are placed together. The skull, with gaping mouth, rests on right cheek, facing northward.

Grave No. 11 :

This grave was located in Sq. 16/P, 3 feet 6 inches below the present surface, laying partly under a baulk. The grave pit measured one foot 11 inches wide and 10 inches deep and excavation brought to light the skeleton of a fairly young female. The left hand was placed in the pelvic region and right parallel to the body. The grave pit in its upper portion was found disturbed.

Grave No. 12 :

The grave was partly located in Sq. 16/P and 17/P, 3 feet 6 inches below the present ground surface. The grave pit measured 5 feet 4 inches by 1 foot 8 inches and was 10½ inches deep. The complete skeleton of a female individual was exposed in G-12 with the left hand placed in the pelvic region and the right stretched parallel to the body. The skull, with gaping mouth, rests on the occiput, slightly turned towards north.

Grave No. 13 (*Pl. XXII-b*):

This grave was located partly in Sq. 16/Q and 17/Q, 3 feet 7 inches below the present ground surface and the pit measured 5 feet 8 inches by 1 foot 5 inches and 9 inches deep. The complete skeleton of a young female was found lying on its back with the skull resting on the left cheek. The right hand was placed in the pelvic region while the left crossed over the navel and held the other from the wrist.

Grave No. 14 :

Grave 14 was located partly in Sq. 16/Q and 17/Q, 3 feet 7 inches below the present ground surface. The pit measured 5 feet 9 inches by 1 foot 8 inches and was 10 inches deep. It was found partly disturbed by a stone filled sanitary pit of Period IV. The complete skeleton of a male was found in G-14, lying on its back with arms stretched parallel to the body. The skull, with gaping mouth, rested on the occiput facing the sky.

Grave No. 15 :

This grave was located partly in Sq. 16/Q and 17/Q, 3 feet 6 inches below the present ground level. It measured 5 feet 8 inches by 1 foot 10 inches and was 10 inches deep. The complete skeleton of a female was exposed lying on its back with the right hand placed in the pelvic region and the left arm stretched parallel to the body. The skull, with gaping mouth and resting on the occiput was slightly turned towards north.

Grave No. 16 (*Pl. XXIII-a*) :

This grave is located partly in Sq. 16/R and 17/R, 3 feet 7 inches below the present ground surface. Since, the grave pit had been disturbed by G-17 the measurement could not be recorded. In this grave, the complete skeleton of a female was found, lying on its back and stretched in an east-west direction with the right hand placed in the pelvic region and the left placed parallel to the body. The skull placed over a stone, was found turned southward.

Grave No. 17 (*Pl. XXIII-a*) :

The G-17 was located in Sq. 16/R and 17/R, 3 feet 7 inches below the present ground surface. The grave pit measured 5 feet 5 inches by 1 foot 7 inches by 10 inches deep and was found oriented in a north-east and south-west direction. Perhaps, for lack of space, the G-17 was laid diagonally in between G-16, and G-18. A garve stone was found only towards the head. The complete skeleton of a fairly young female individual was found in this grave, lying on its back with the left hand at the femur and the right stretched parallel to the body. The skull, with gaping mouth, was turned towards the north.

Grave No. 18 (*Pl. XXIII-a*) :

This grave was located in Sq. 16/R and 17/R, 3 feet 8 inches below the present ground surface. The grave pit measured 1 foot 3 inches wide and 9 inches deep. The lower half portion of the grave had been disturbed by G-17. The post-pelvic portion of the skeleton had also been removed by the digger of G-17. The excavation of G-18 brought to light the upper half of a male skeleton with arms stretched parallel to the body. The skull, with gaping mouth, was resting on its occiput.

Grave No. 19 (*Pl. XXIII-b*) :

Grave 19 was located in Sq. No. 17/O and 18/O, 3 feet 8 inches below the present ground surface (Pl. XXb), lying partly under the baulk and measuring 1 foot 9 inches wide and 8 inches deep. The grave was partly excavated and a male skeleton of an aged individual was found. The skeleton lay on its back with arms stretched parallel to the body and with the skull resting on the occiput, turned north-ward.

Grave No. 20 (*Pl. XXIV-a* and *XXIV-b*) :

This grave was located in Sq. 17/O and 18/O, 3 feet 8 inches below the present ground level. The grave pit (Pl. XXb), measuring 5 feet 11 inches by 1 foot 7 inches, was indicated by two grave stones. On the grave floor, at a depth of 8 inches, lay the complete skeleton of a female on its back with both hands placed in the pelvic region. The skull, resting on the occiput, was found crushed under the weight of the grave stone placed direct over it. The bones of the skeleton are thick and massive in appearance.

Grave No. 21(*Pl. XXXIV-c*) :

This grave was located partly in Sq. 17/O and partly in 18/O, 3 feet 8 inches below the present surface of the mound. The grave pit (Pl. XXb) measured 5 feet 7 inches by 1 foot 10 inches and was 8 inches deep. Inside the grave was a complete burial of an individual oriented in an east-west direction with arms stretched parallel to the body. The skull, with gaping mouth, rested on it occiput.

Grave No. 22 (*Pl. XXIV*-c and *XXI-a*) :

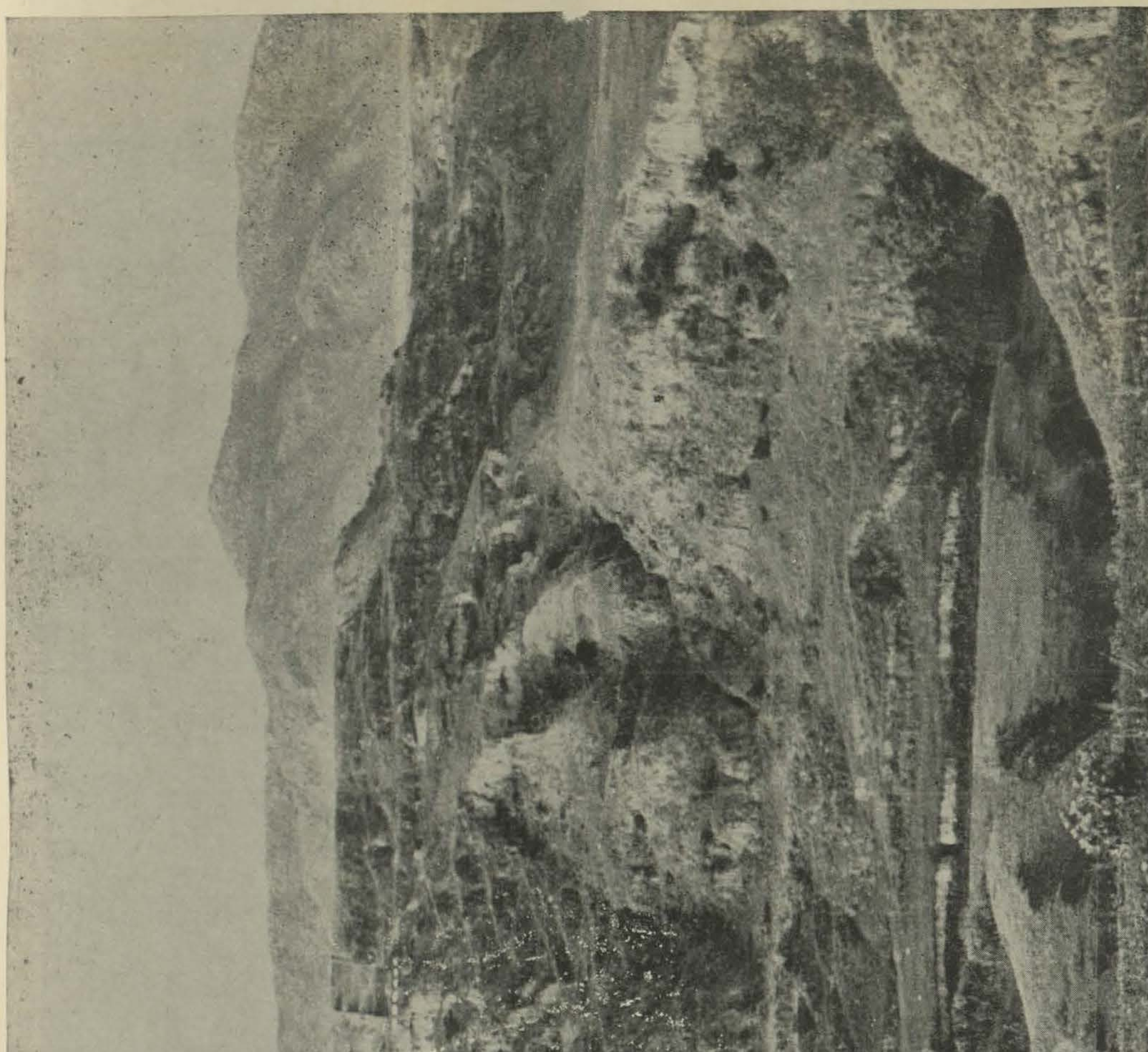
This grave was located partly in Sq. 17/P and partly in 18/P, 3 feet 8 inches below the present surface of the mound. The grave pit (Pl. XXb) measured 6 feet 3 inches by 2 feet and was 8½ inches deep. Inside the grave was a complete male skeleton with arms stretched parallel to the body and skull resting on right cheek.

Grave No. 23 (*Pl. XXI-a*) :

The grave was located in Sq. 17/P and 18/P, 3 feet 8 inches below the present surface of the mound. The grave pit measured 6 foot 5 inches by 1 foot 9 inches and was 9 inches deep. Inside the grave was the complete male skeleton oriented in an east-west direction with arms stretched parallel to the body and head turned to the north.

Grave No. 24 (*Pl. XXI-a*) :

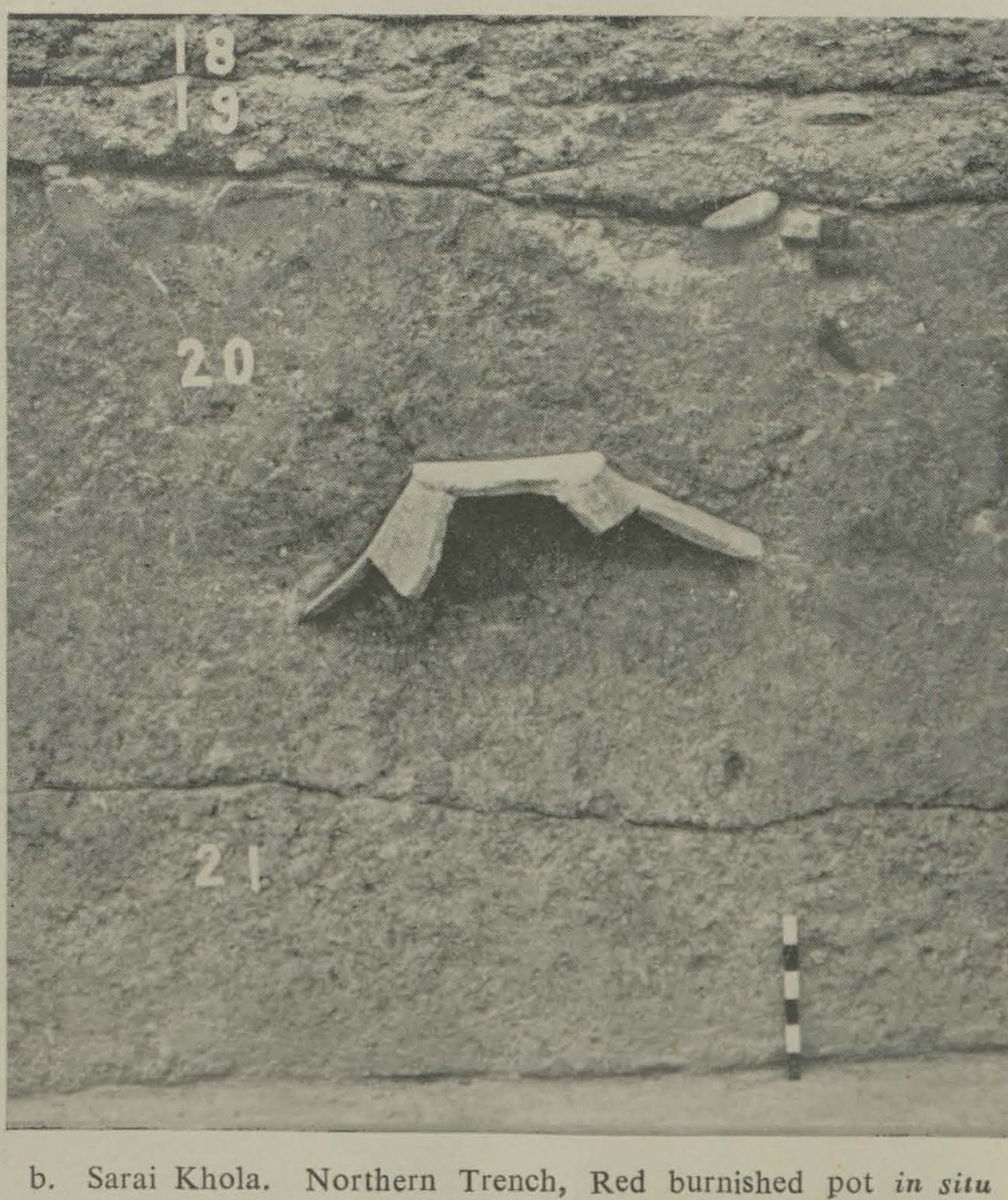
This grave was located in Sq. No. 17/P and 18/P, 3 feet 7 inches below the present surface of the mound. The grave pit measured 6 feet 1 inch by 1 foot 6 inches and due to disturbance in the upper portion, the actual depth of the grave pit could not be measured. As a result of disturbance stone rubble was found inside the grave pit. In the grave was found a complete male skeleton extending in an east-west direction with arms placed parallel to the body and the skull, resting on occiput, faced sky-ward. The remains had also suffered disturbance.



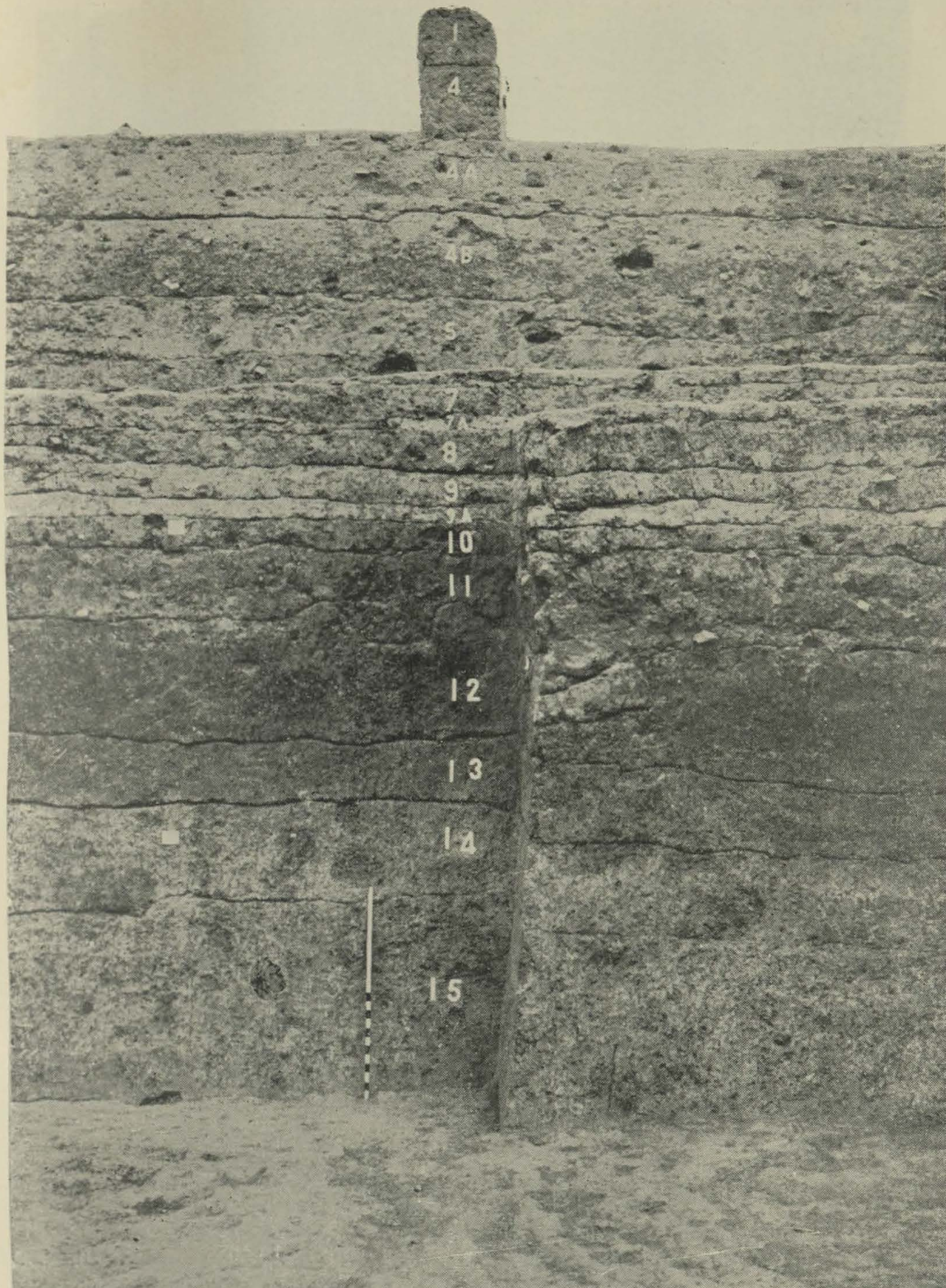
Sarai Khola. General view of the pre-historic mound from north



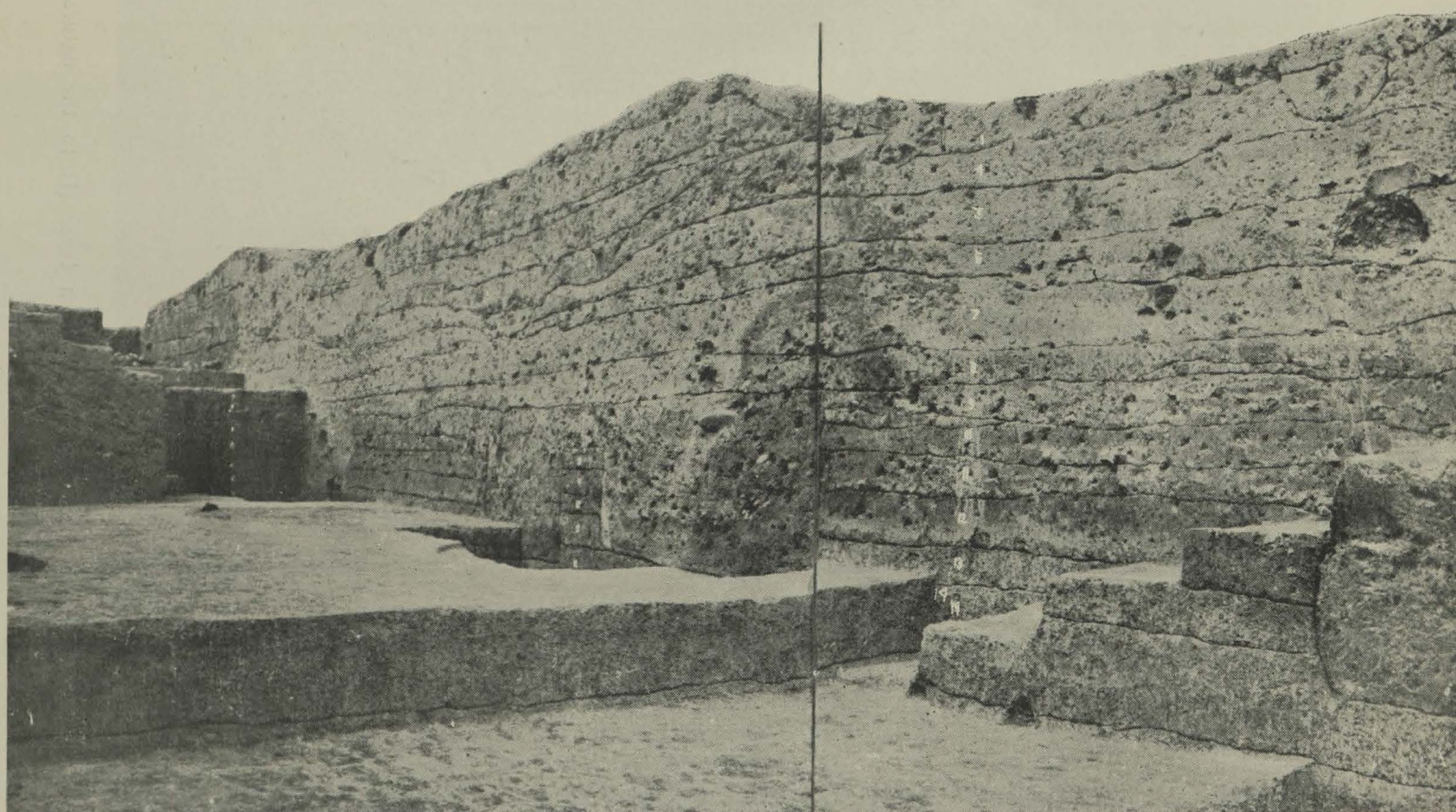
a. Sarai Khola. General view of the mound from north east



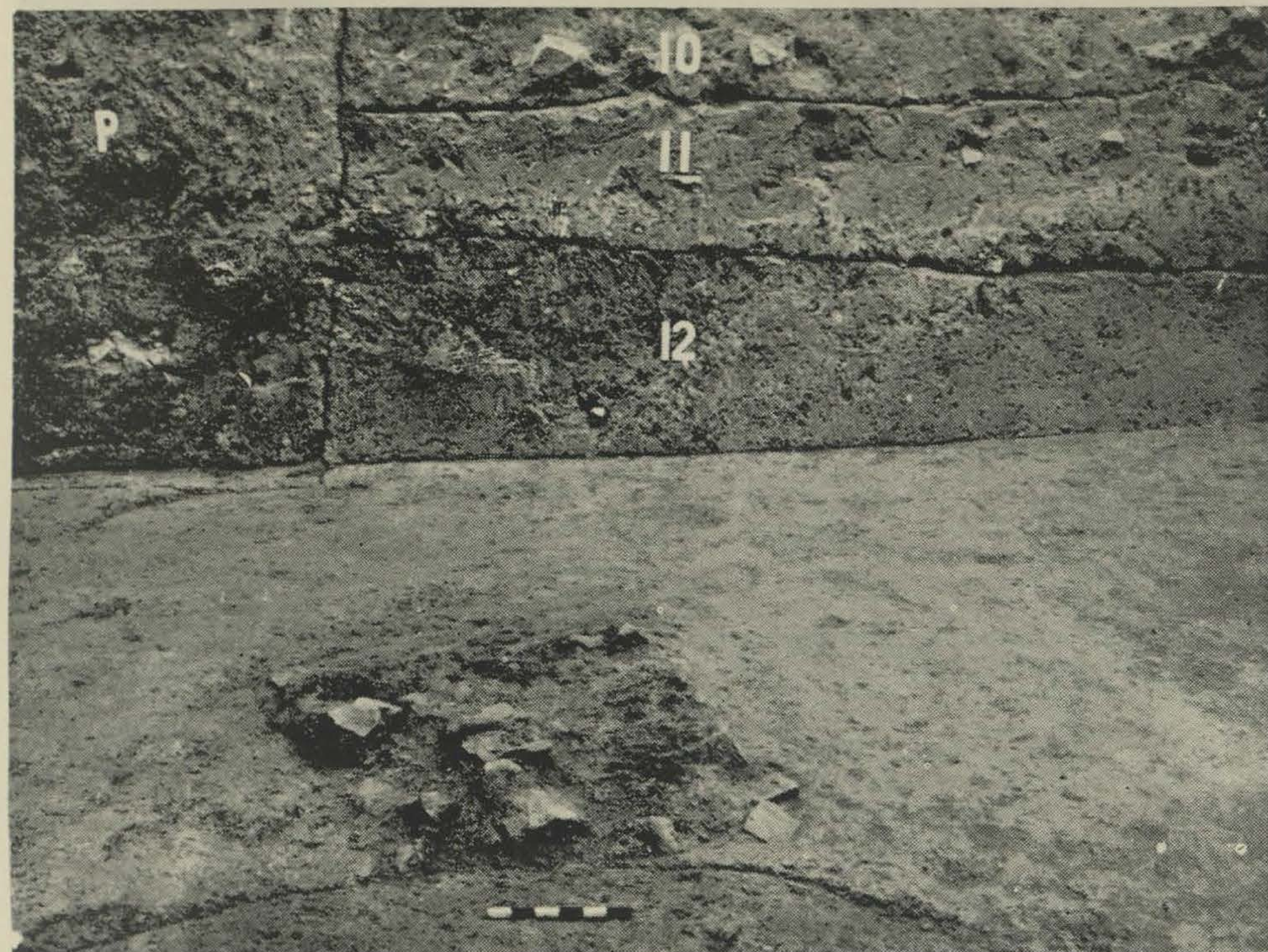
b. Sarai Khola. Northern Trench, Red burnished pot *in situ*



Sarai Khola. Southern Trench, northern section from layer (I) to the natural soil in (14)



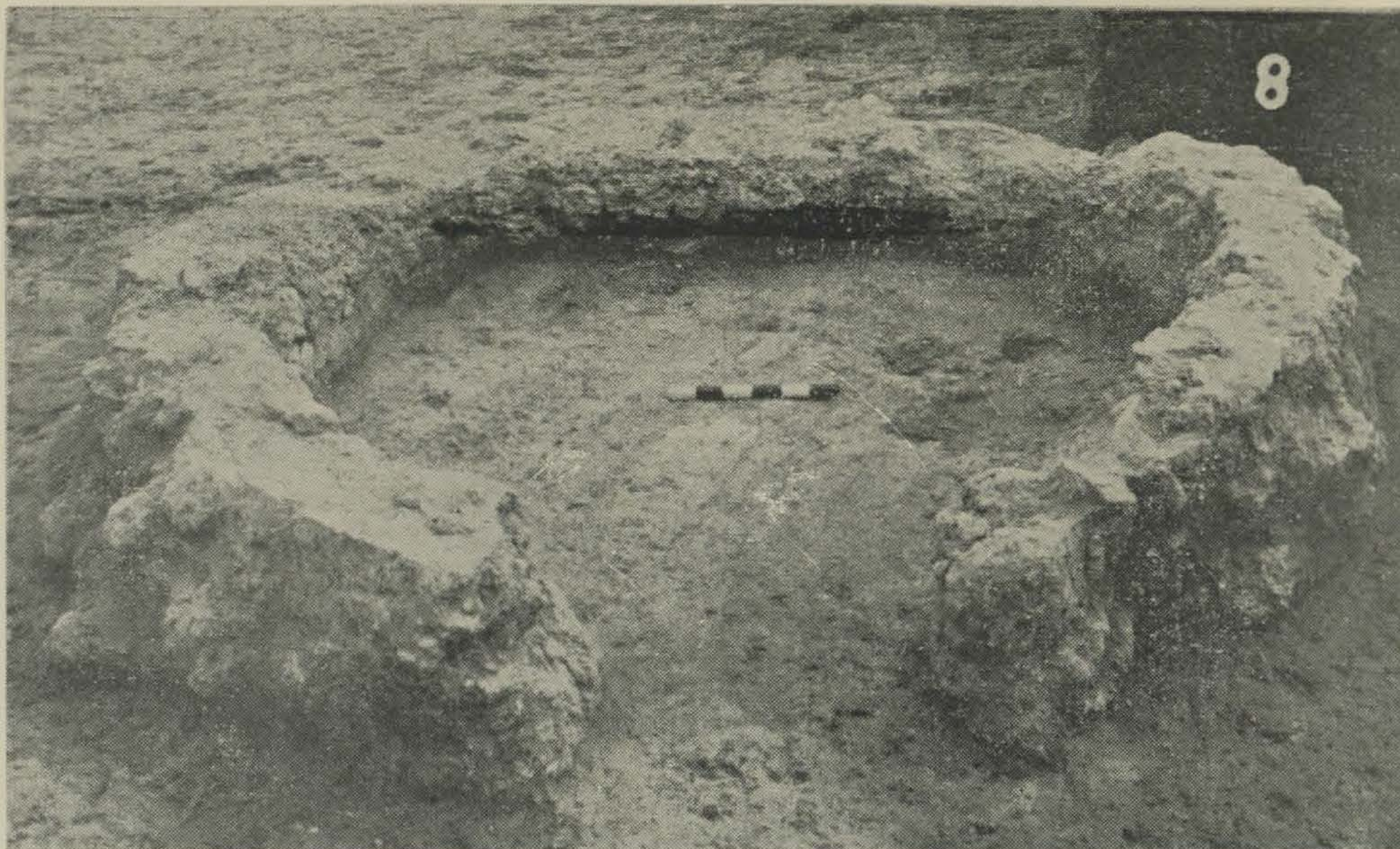
Sarai Khola. Trench A, Eastern section (after completion). The first human occupation is marked by layer (12) below which is the natural soil. See Fig. 11 b



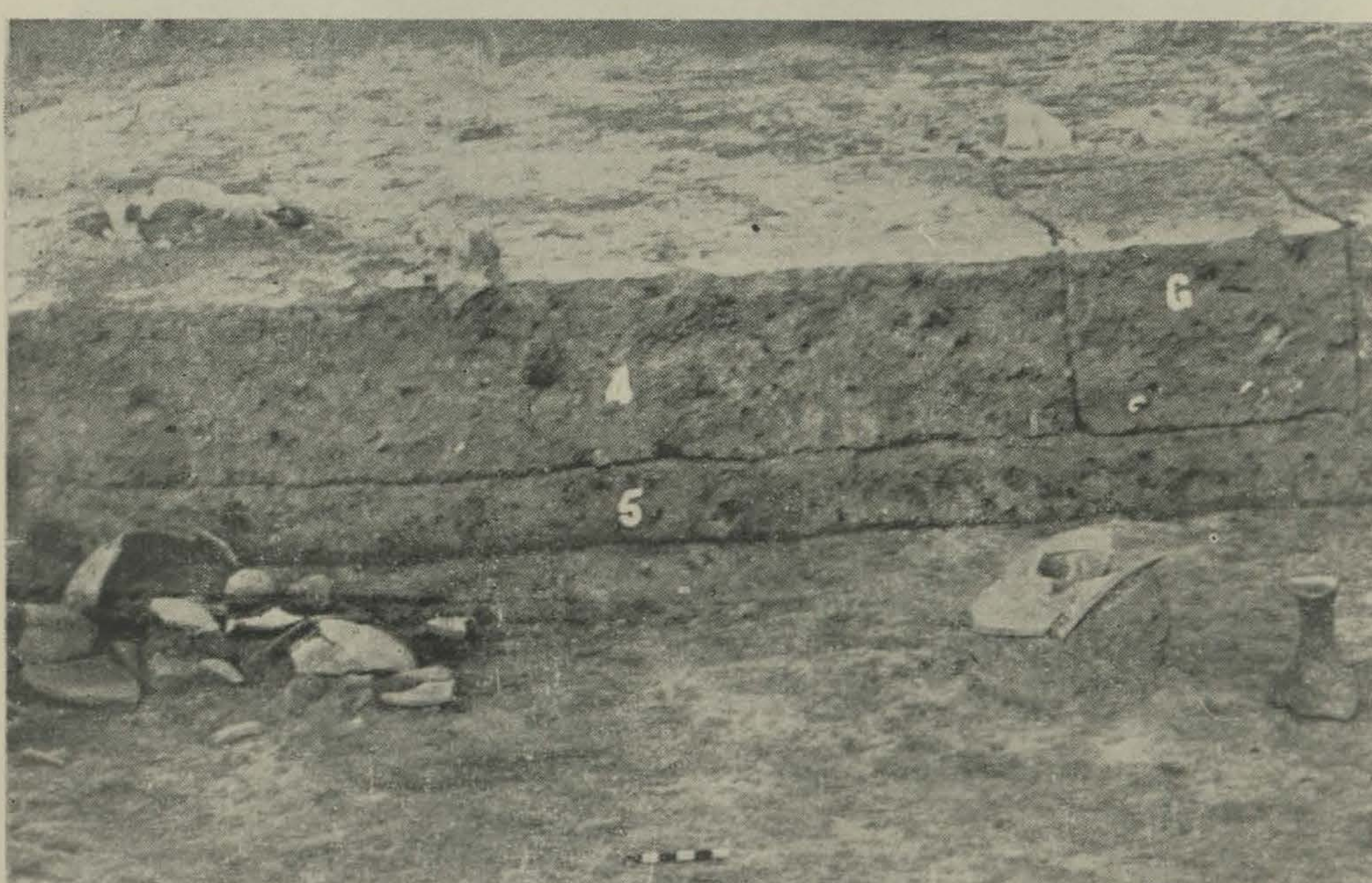
a. Sarai Khola. Trench A, hearth on the floor level of layer (12)



b. Sarai Khola. Trench A, general view from north showing circular pits of Period II



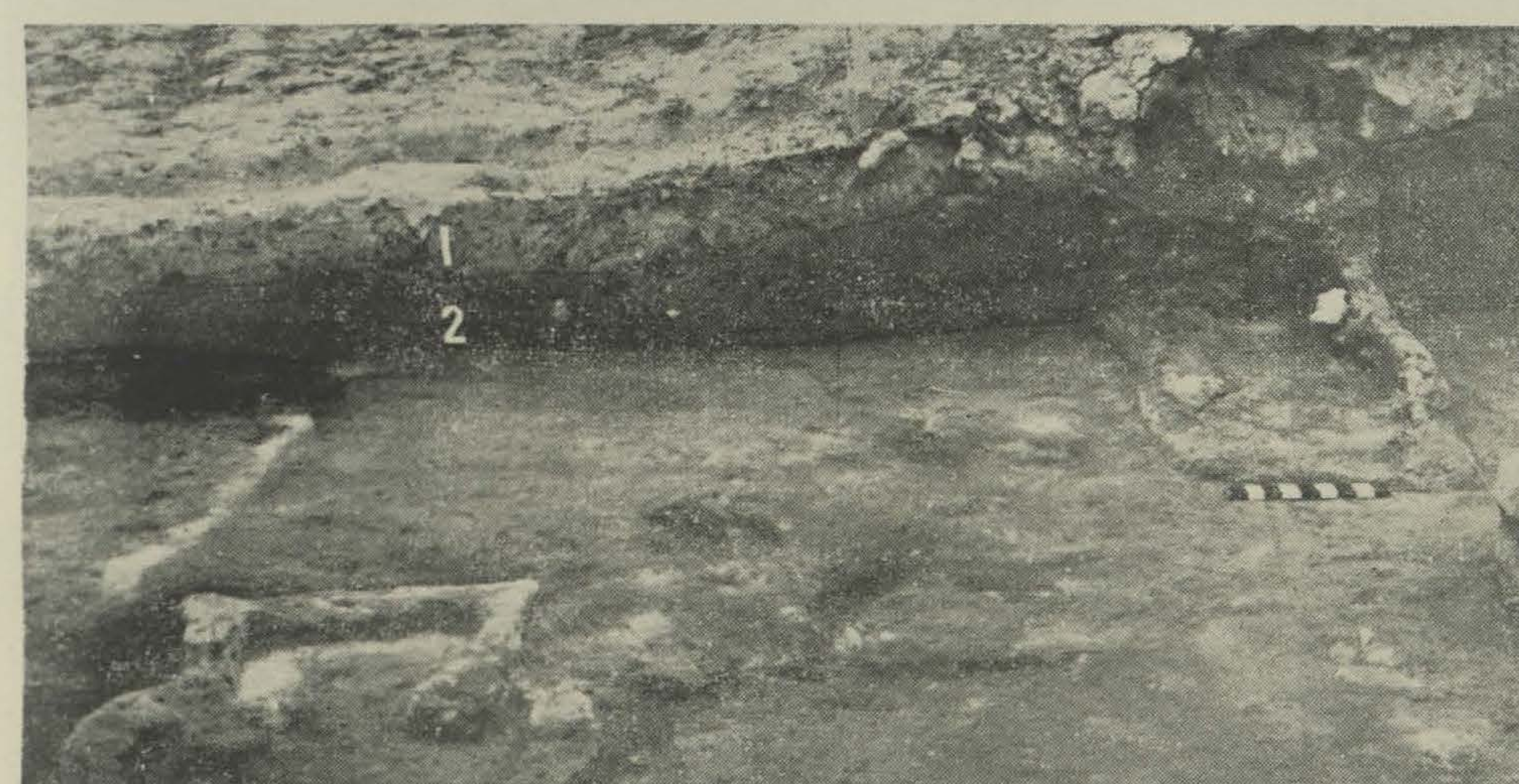
a. Sarai Khola. Trench A, Mud-plastered hearth on floor level of layer (8) from north



b. Sarai Khola. Trench A, floor level of layer (5).



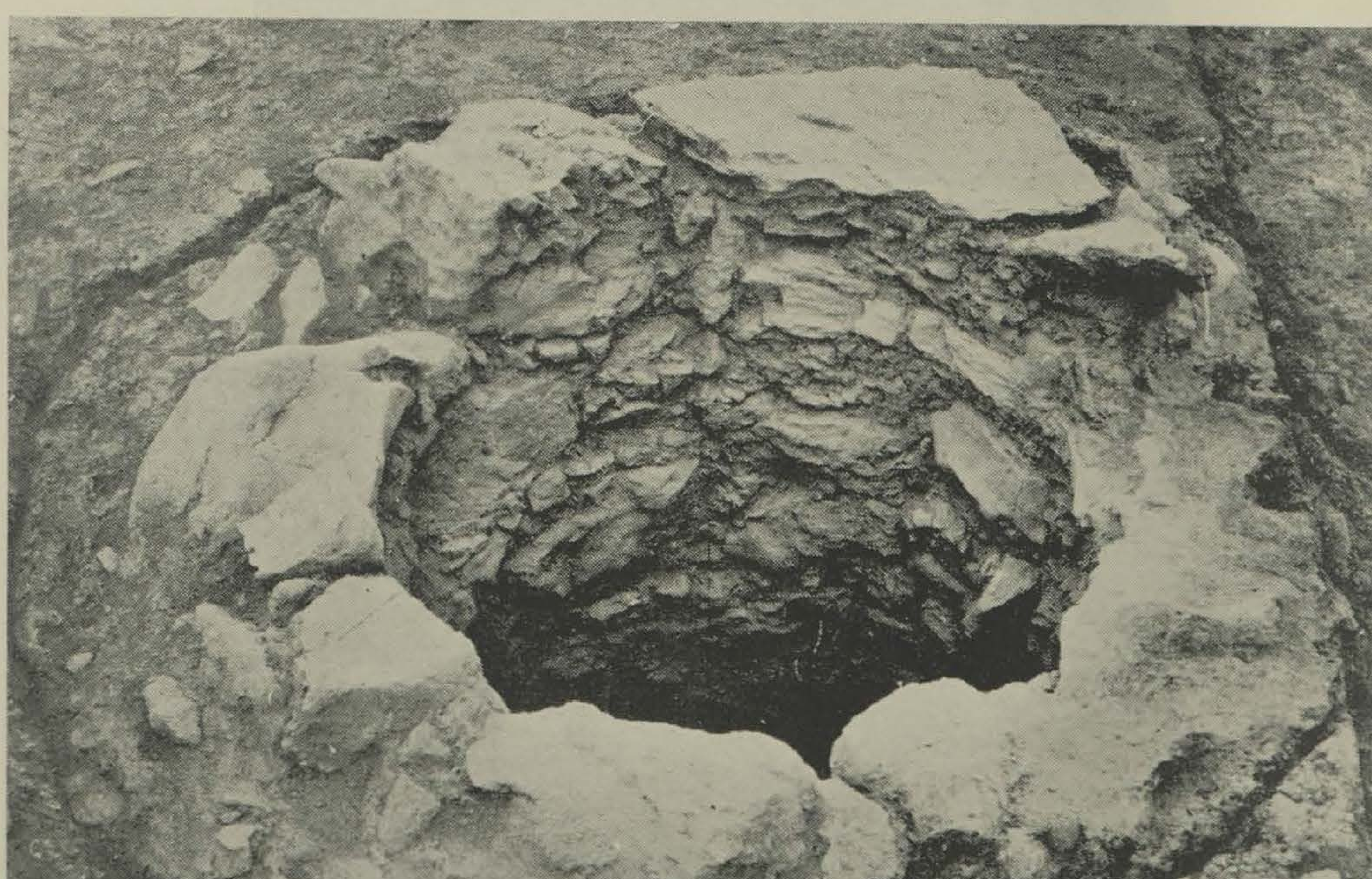
a. Sarai Khola. Trench A, Post-holes of layer (5) under excavations in Sq. 17 & 18/x



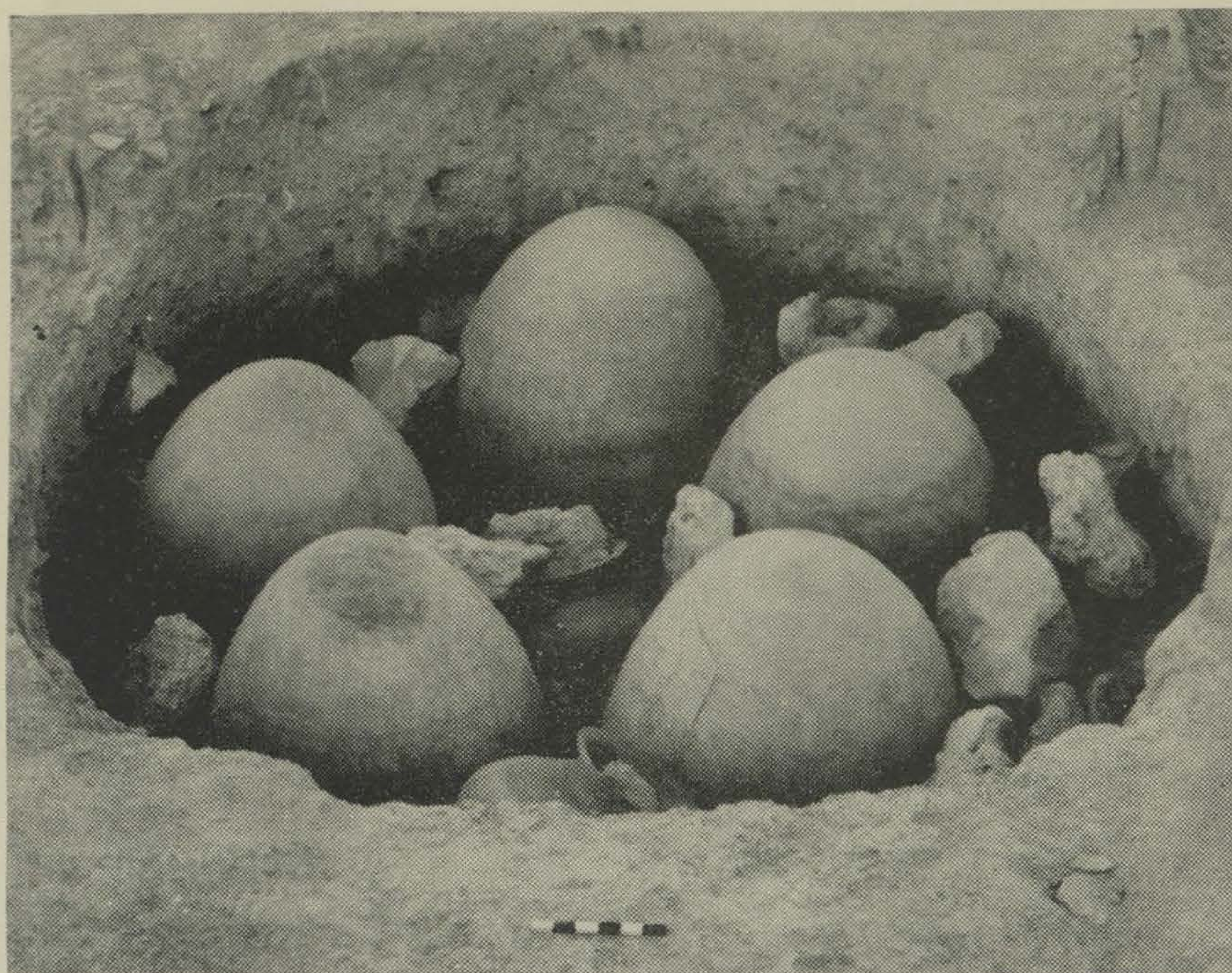
b. Sarai Khola. Trench A, fire places on the floor level of layer (2)



a. Sarai Khola. Trench A, Circular Pits, of Period IV from east



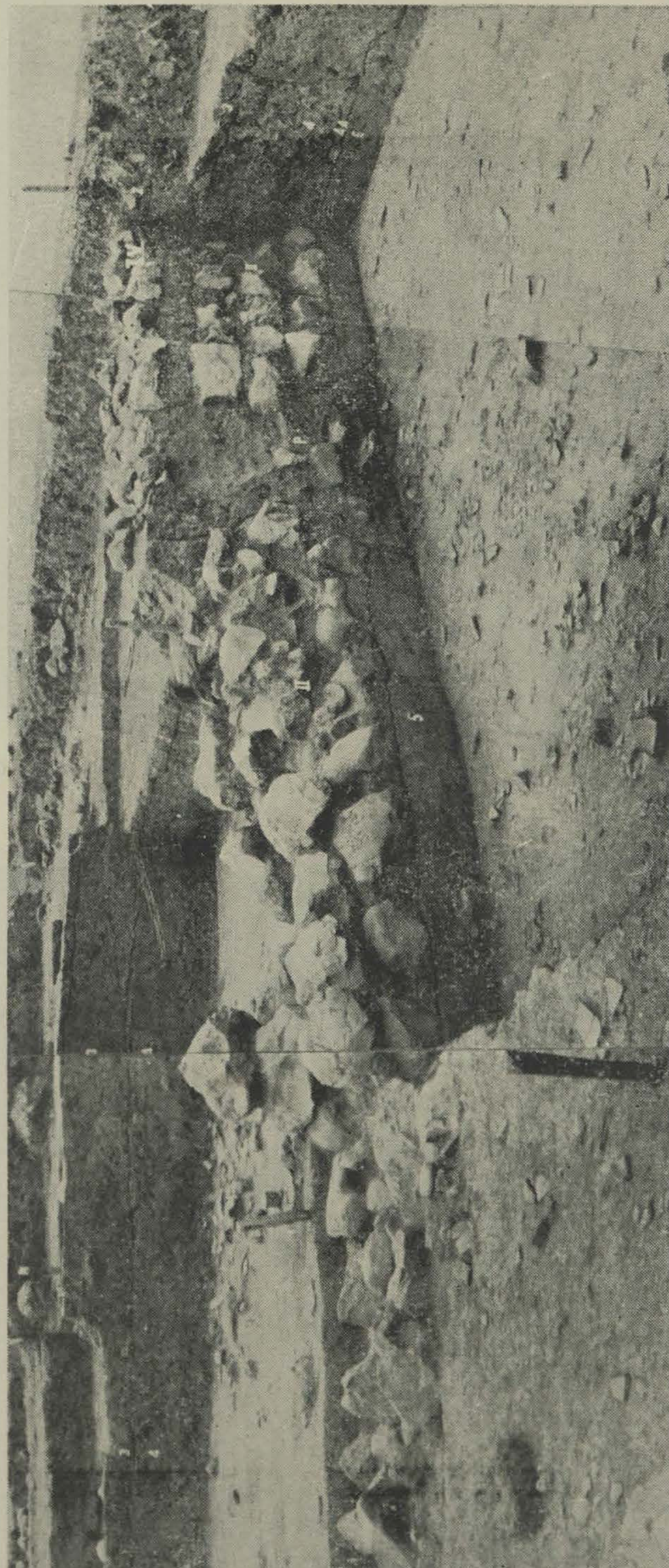
b. Sarai Khola. Trench A, Stone lined soak Pit of Period IV



a. Sarai Khola, Trench A, Excavated Pit of Period IV containing storage Jars



b. Sarai Khola. Trench B, general view from north showing stone sealings and graves of Period III (Late Cemetery) and also the circular Pits, of Period IV



Sarai Khola. Trench B, Structures of Period II and IV with floor levels of layer (5) & (4)



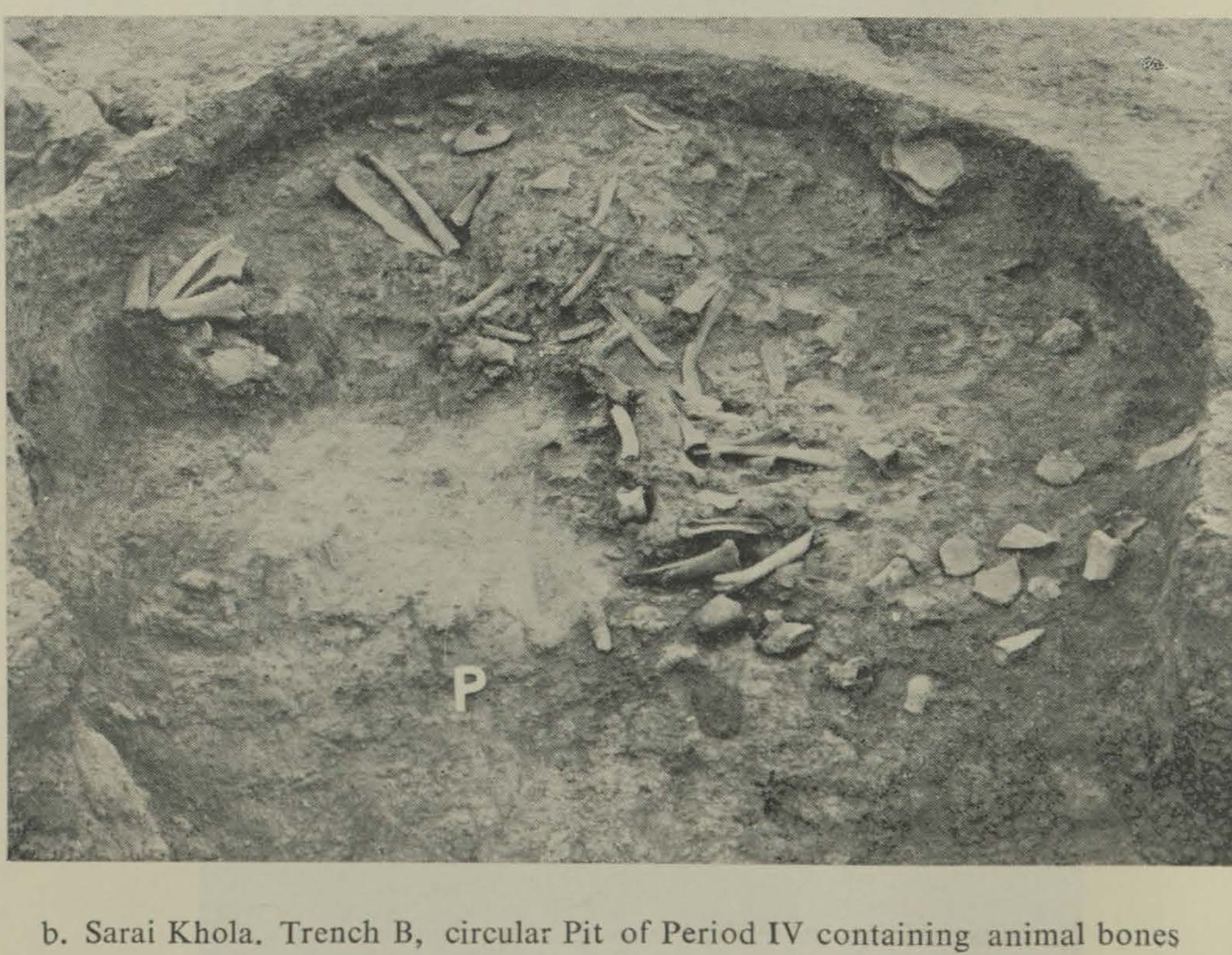
a. Sarai Khola. Trench A, Stone structure and floor level of Period II, layer (5), from east



b. Sarai Khola. Square 14/P, Q & R, structural remains of Period IV with associated floor level of layer (2) from south



a. Sarai Khola. Trench B, Circular Pit of Period IV from east



b. Sarai Khola. Trench B, circular Pit of Period IV containing animal bones



a. Sarai Khola. Trench B, circular Pits of Period IV from east



b. Sarai Khola. Trench A, Grave pits of Early Cemetery (Period III) marked before exposing the burials, view from east

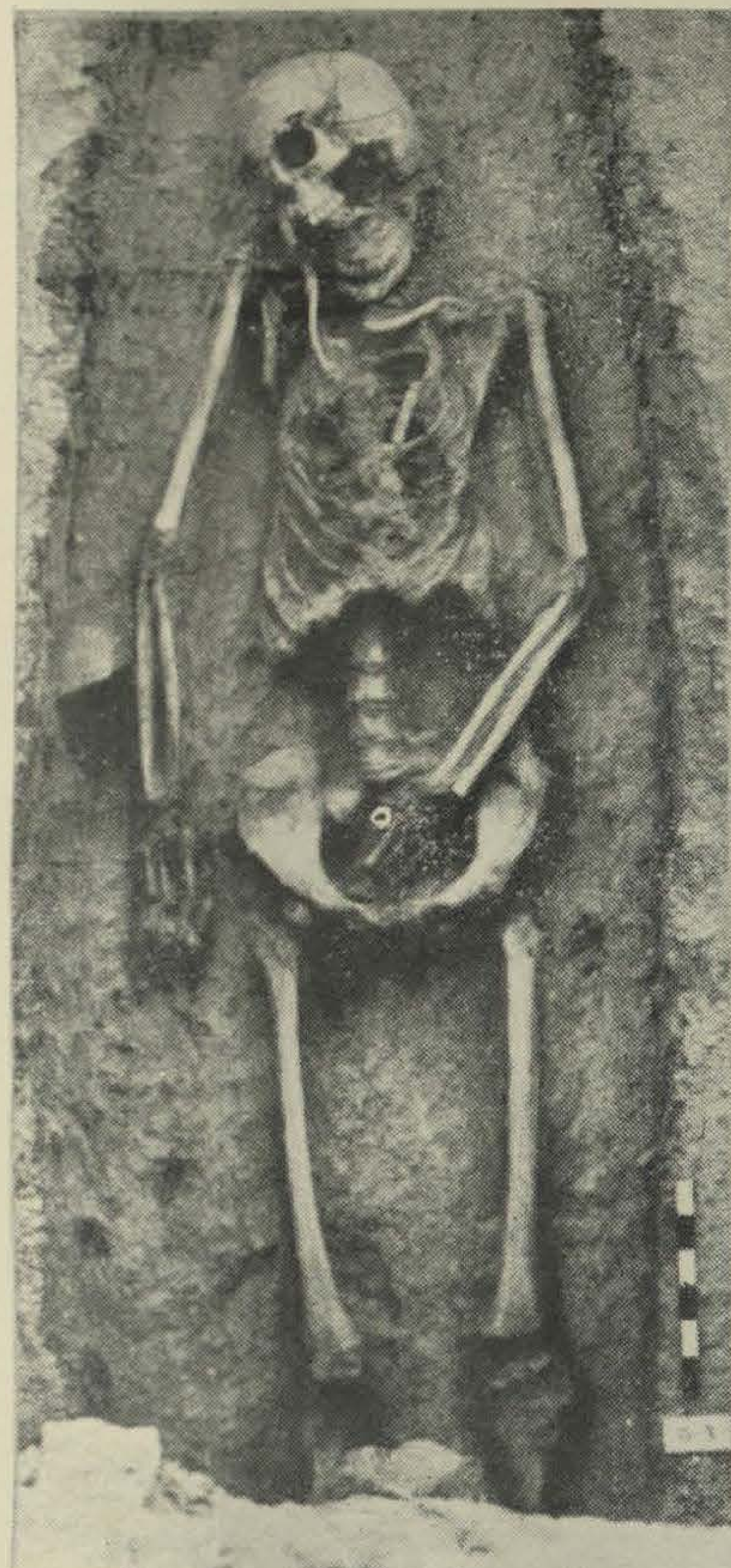
Plate XXI



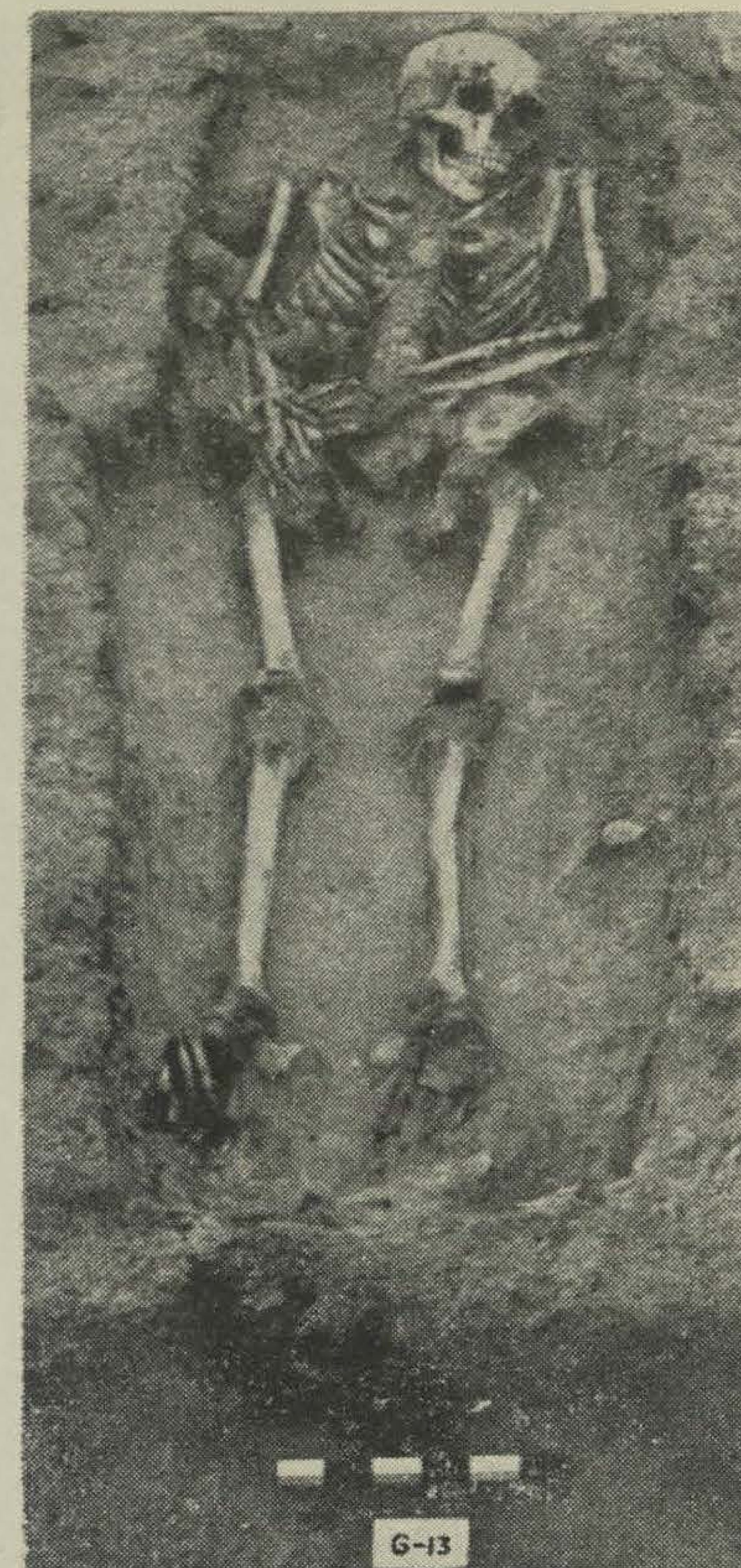
a. Sarai Khola. Trench A, general view of Early Cemetery of Period III, from west



b. Sarai Khola. Burial in Grave 1 & 2 of the Early Cemetery of Period III



← a. Sarai Khola. Burial in Grave 3 of the Early Cemetery of Period III



b. Sarai Khola. Burial in Grave-13 of the Early Cemetery of Period III →



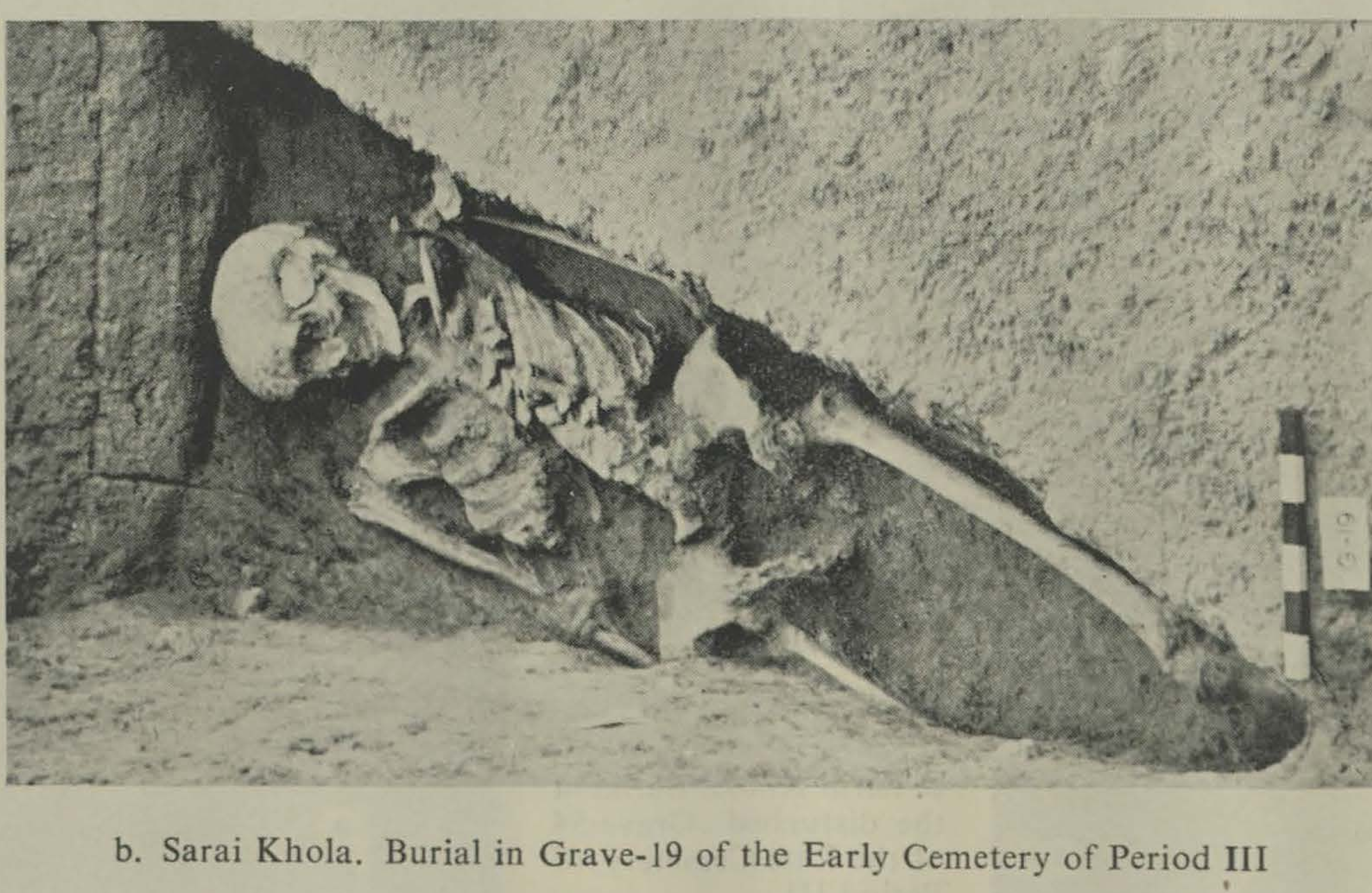
← c. Sarai Khola. Burial in Grave-30 of the Late Cemetery of Period III



d. Sarai Khola. Burial in the disturbed Grave-54 of the Late Cemetery of Period III →



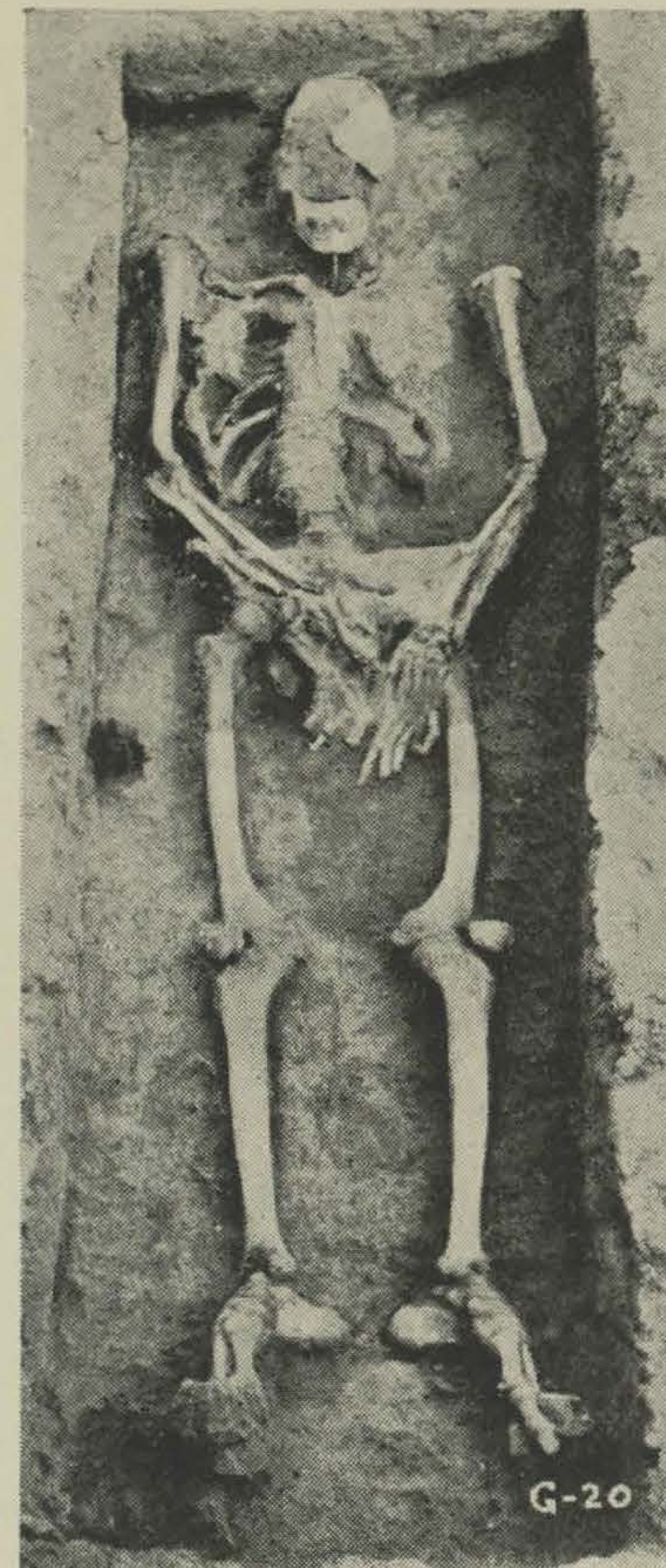
a. Sarai Khola. Burials in Graves 16, 17 & 18 of the Early Cemetery of Period III



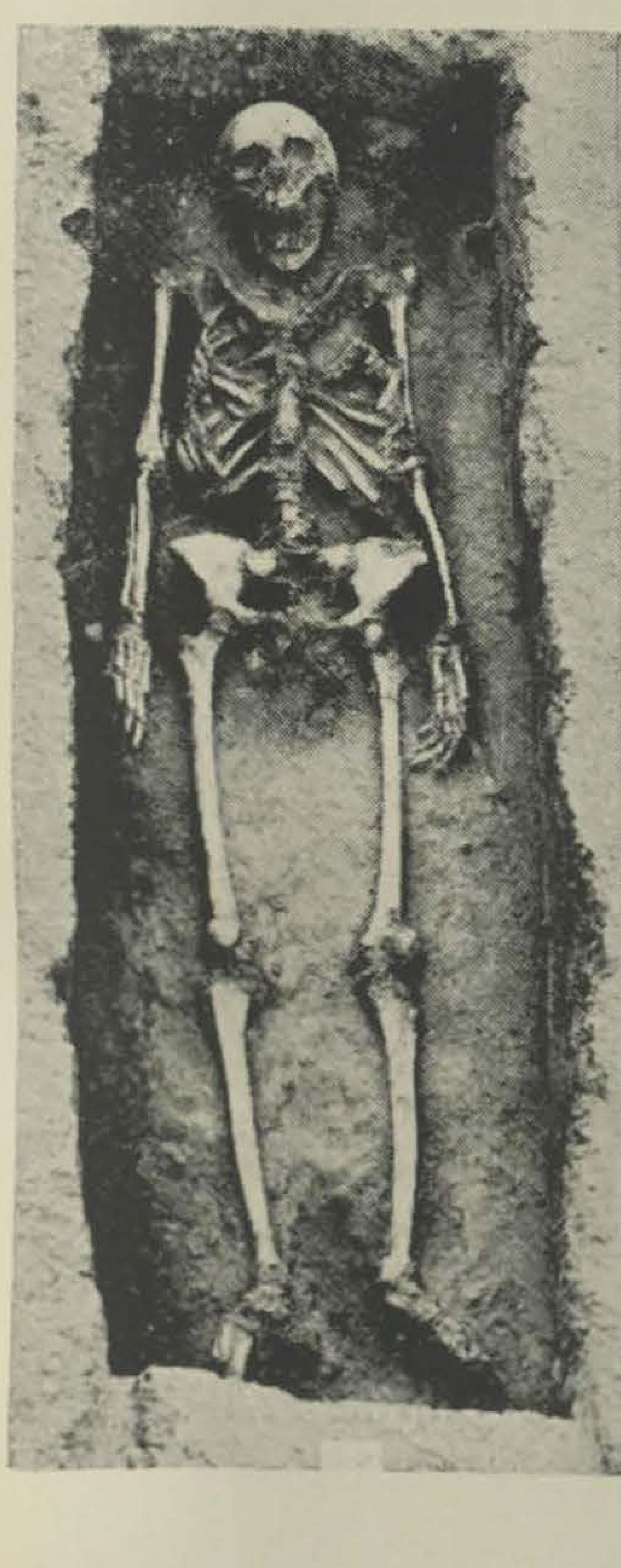
b. Sarai Khola. Burial in Grave-19 of the Early Cemetery of Period III



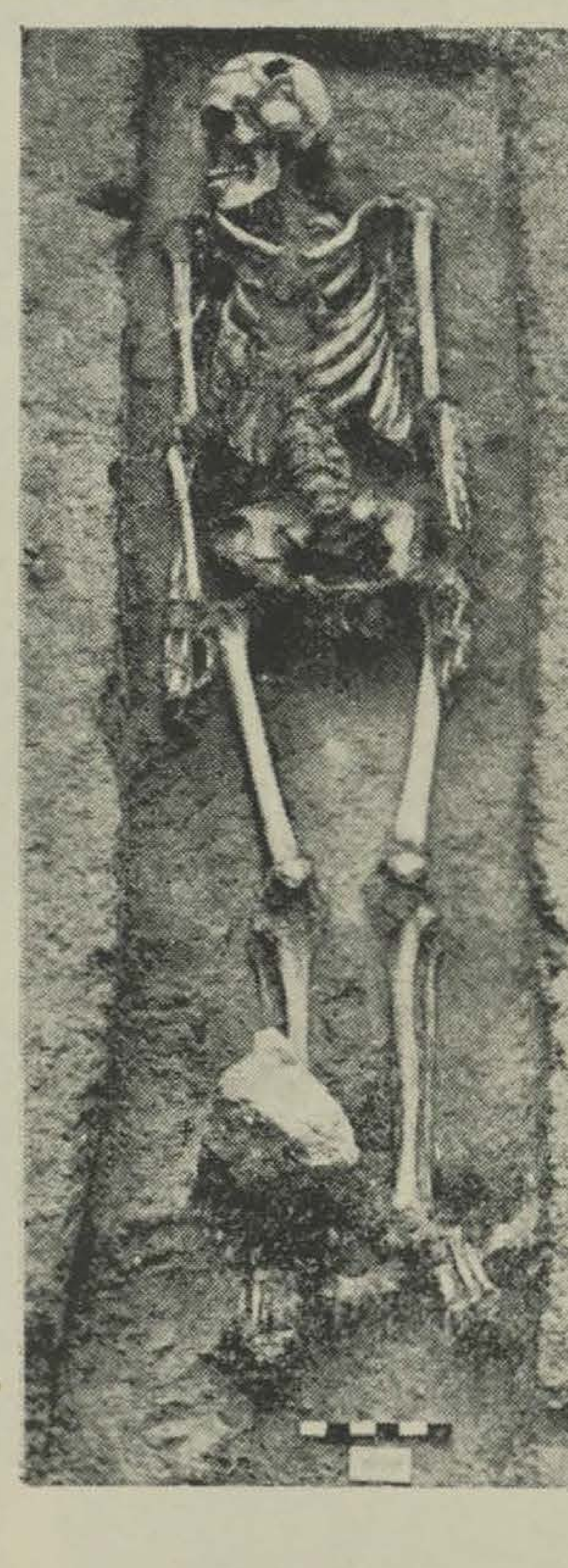
← a. Sarai Khola. Half exposed burial in Grave-20 of the Early Cemetery of Period III



b. Sarai Khola. Completely exposed burial in Grave-20 of the Early Cemetery of Period III →



← c. Sarai Khola. Burial in Grave-21 of the Early Cemetery of Period III



d. Sarai Khola. Burial in Grave-22 of the Early Cemetery of Period III →



a. Sarai Khola. Burial in Grave 54 of the Early Cemetery of Period III



b. Sarai Khola. Burial in Grave-56 of the Early Cemetery of the Period III

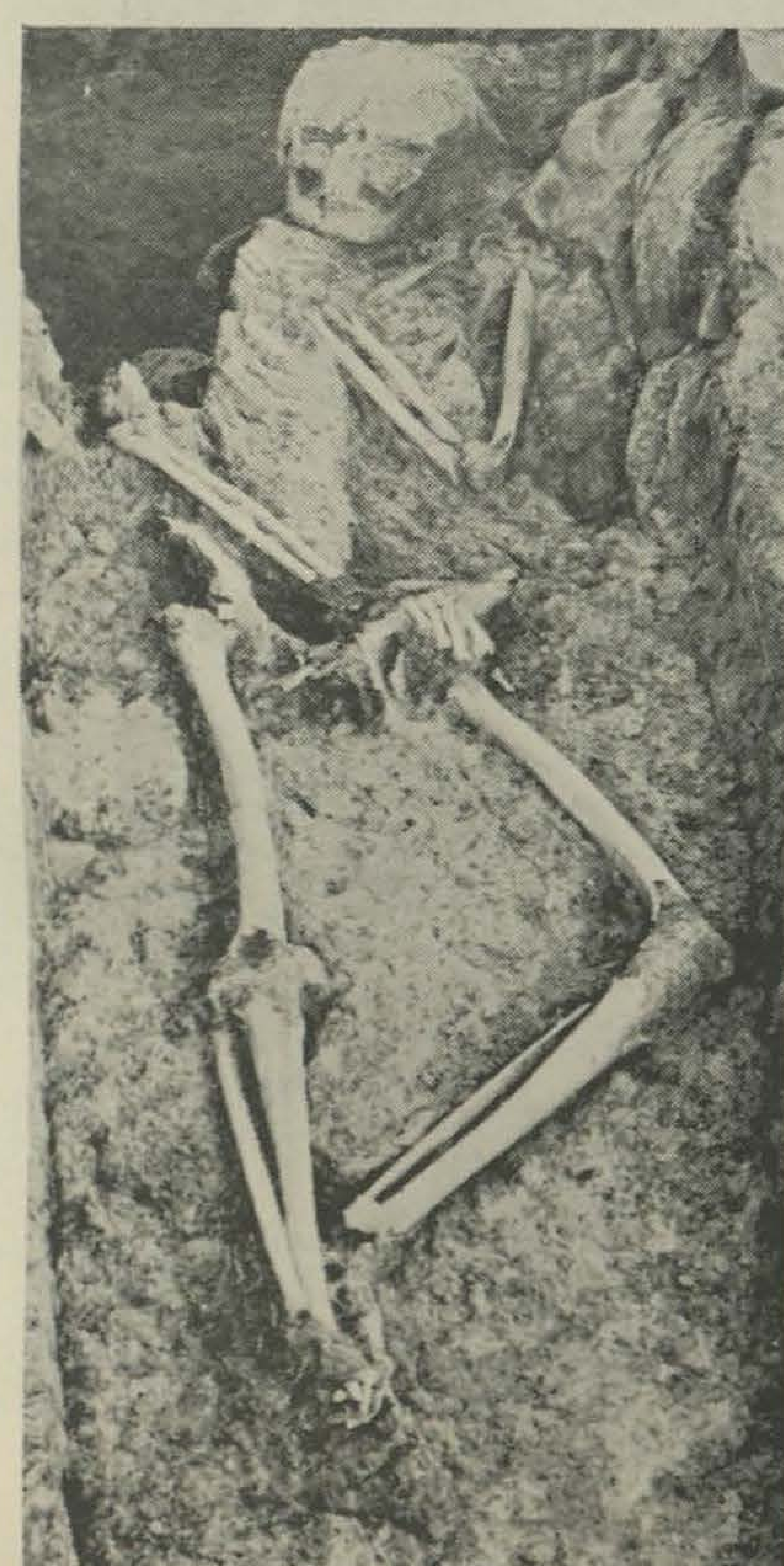
Plate XXVI



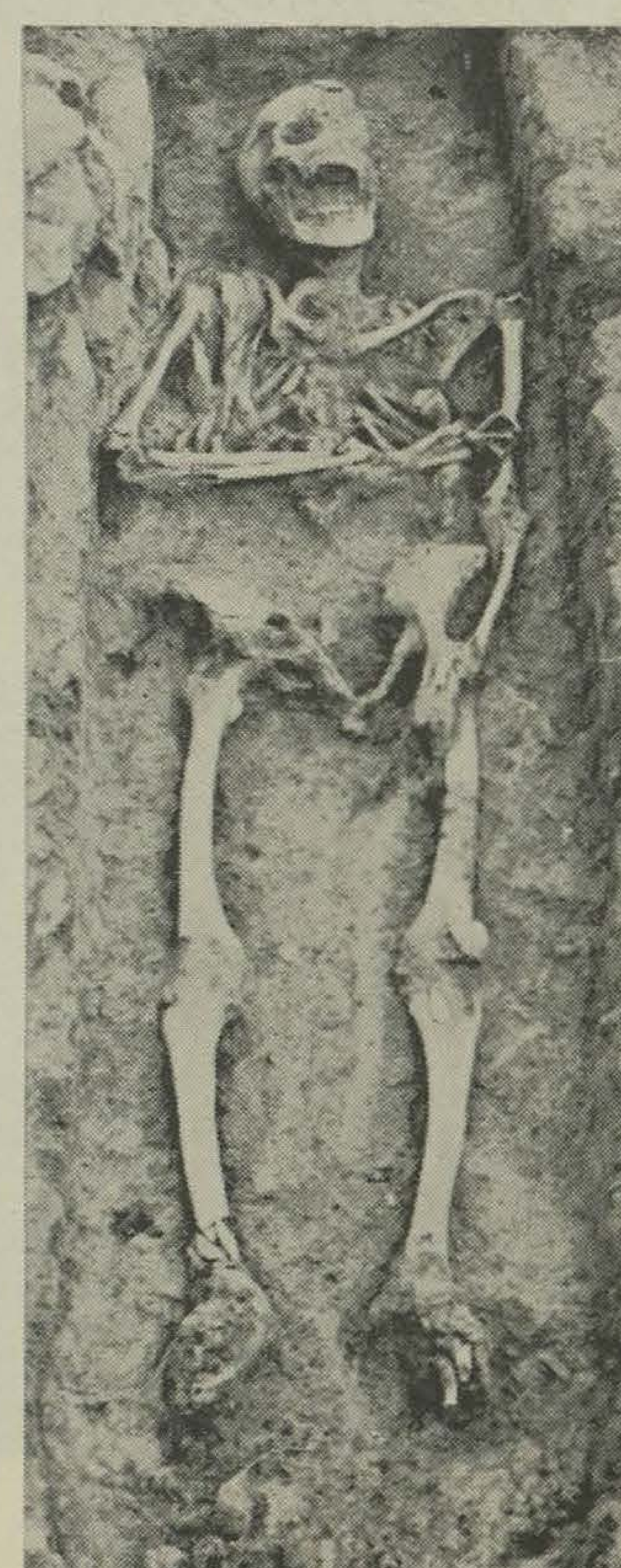
← a. Sarai Khola. Sealing Stones of Grave-5 of the Late Cemetery of Period III



→ b. Sarai Khola. Burial in Grave-5 of the Late Cemetery of Period III



← c. Sarai Khola. Burial in Grave-7 of the Late Cemetery of Period III

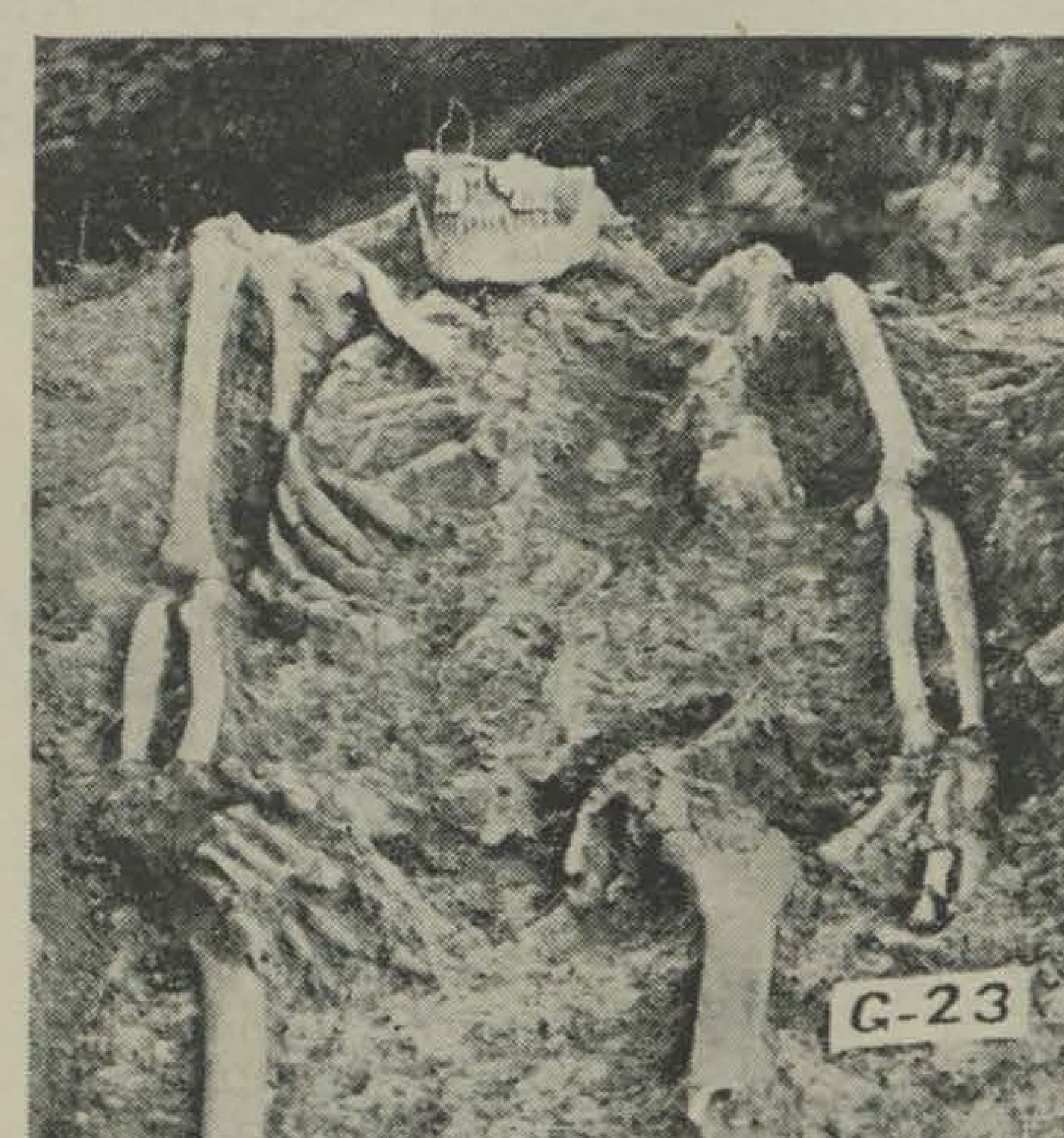


→ d. Sarai Khola. Burial in Grave-8 of the Late Cemetery of Period III



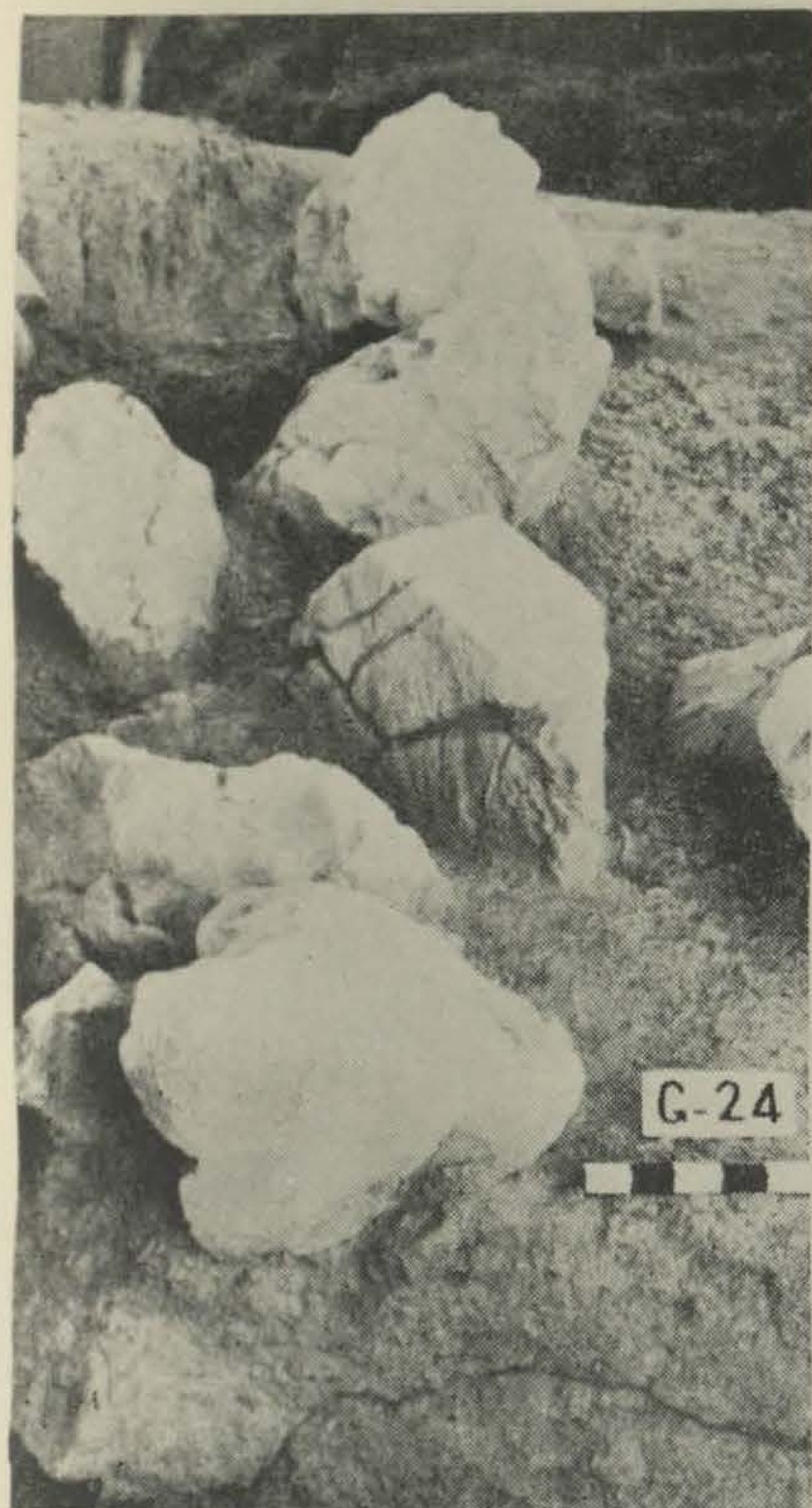
a. Sarai Khola. Rubbish Pits of Period IV disturbing the Grave-22 & 23 of the Late Cemetery of Period III



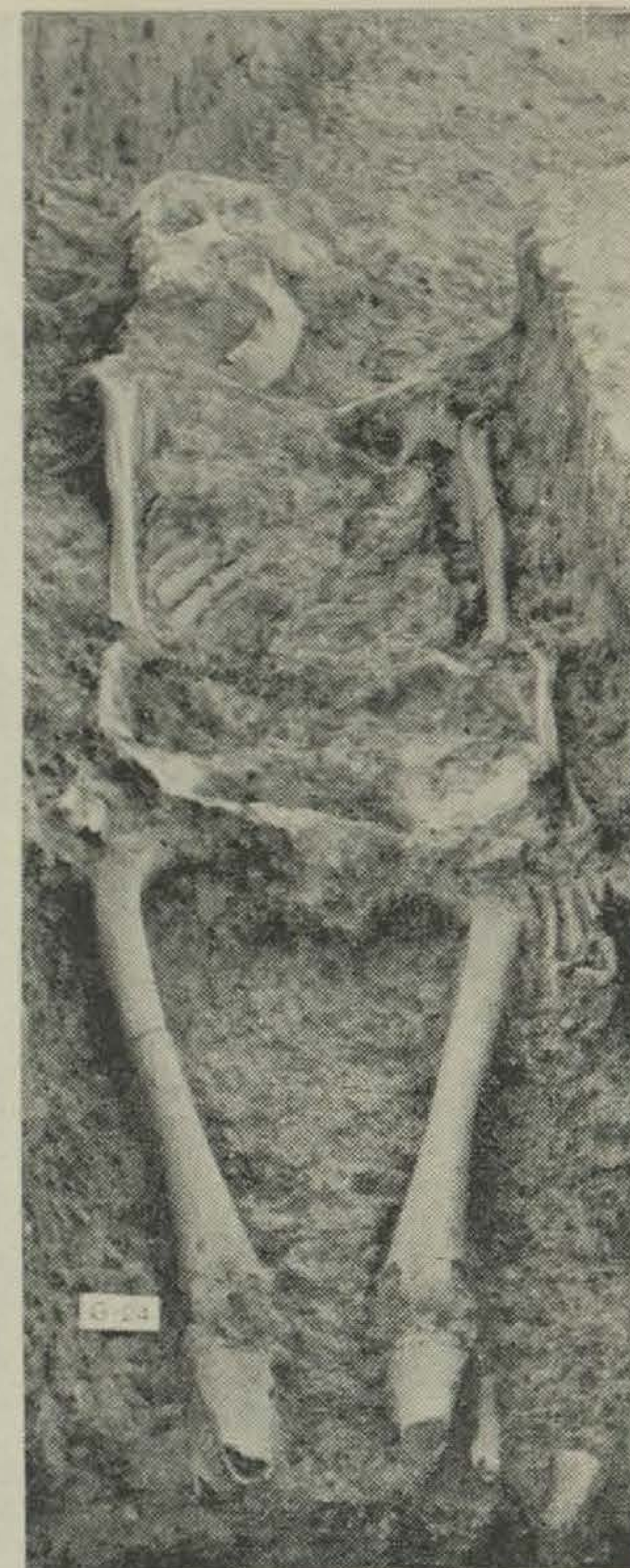


c. Sarai Khola. Burial in disturbed Grave-23 of the Late Cemetery of Period III

← b. Sarai Khola. Burial with an iron ring in Grave-22 of the Late Cemetery of Period III



← a. Sarai Khola. Disturbed sealing stones of Grave-24 of the Late Cemetery of Period III



b. Sarai Khola. Burial in the disturbed Grave-24 of the Late Cemetrey of Period III →



← c. Sarai Khola. Sealing stones of Grave-26 of the Late Cemetry of Period III



d. Sarai Khola. Burial with an iron rod in Grave-26 of the Late Cemetery of Period III →



a. Sarai Khola. Burials in the disturbed Grave-56, 57 & 58 of the Late Cemetery of Period III



b. Saria Khola. Burial in Grave-60 of the Late Cemetery of the Period III

Grave No. 25 (*Pl. XXI*-a) :

The grave was located partly in Sq. 17/Q and partly in Sq. 18/Q, 3 feet 6½ inches below the present surface of the mound. The grave pit measured 6 feet 6 inches by 1 foot 6 inches and was 9 inches deep. Inside the grave was a complete male skeleton extending in an east-west direction with hand stretched parallel to the body. The skull, resting on right cheek, was turned to the north.

Grave No. 26 (*Pl. XXI*-a) :

This grave was located partly in Sq. 17/Q and Sq. 18/Q, 3 feet 7 inches below the present ground surface. The grave pit measured 6 feet 2 inches by 1 foot 5 inches and was 9½ inches deep. In the grave was a complete female burial with the left hand placed over the pelvis and femur and the right, crossed over the navel, held the left hand. The skull, with gaping mouth, was turned to the north.

Grave No. 27 (*Pl. XXI-a*) :

This grave was located in Sq. No. 17/Q and 18/Q, 3 feet 5 inches below the present surface of the mound. The grave pit measured 1 foot 10 inches by 11 inches and was 5 inches deep. Inside was the complete burial of an infant child. The skeleton was in a very poor state of preservation.

Grave No. 28 (*Pl. XXI-a*) :

This grave was located partly in Sq. 17/Q and Sq. 18/Q, 3 feet 8 inches below the present surface of the mound. The grave pit measured 6 feet 1 inch by 1 foot 6 inches and was 9 inches deep and contained the complete burial of a female, extending in an east-west direction with the right hand placed over the pelvic region and left, crossed over the navel, held the other at the elbow. The skull, resting on left cheek, was turned to the south.

Grave No. 29 (*Pl. XXI-a* and *Fig.* 11-*b*) :

The grave was located in Sq. No. 18/P, 3 feet 4½ inches below the present surface of the mound. It measured 6 feet 3 inches by 1 foot 9 inches and was 8½ inches deep. Inside was the complete burial of a male with arms stretched parallel to the body and head turned towards the south. On the grave floor two stones were placed near the feet.

Grave No. 30 (*Pl. XXI-a*) :

This grave, partly under the baulk, was located in Sq. 18/P, 3 feet 7½ inches below the present ground surface (Fig. 11b). The grave pit measured 1½ feet wide and 7½ inches deep and contained the lower portion of a female with right hand placed over the pelvic region and the left stretched parallel to the body.

Grave No. 31 (*Pl. XXI-a*) :

This grave was located in Sq. 18/Q and lay partly under a baulk (Fig. 11b). and measured 1 foot 8 inches wide and 8½ inches deep. Inside the grave a human post pelvic bones were found. From their massiveness they appeared to be those of a male.

Grave No. 32 (*Pl. XXI-a* and *Fig.*11-*b*) :

This grave partly lay under a baulk, located in Sq. 18/Q, 4 feet 7 inches below the present surface of the mound. The grave pit measured 1 foot 2 inches wide and was 9 inches deep. Inside the grave were the post pelvic portions of a male. The arms were stretched parallel to the body.

Grave No. 33 :

This grave was located in Sq. No. 17/V, 1 foot 8 inches below the present surface of the mound. The grave pit, oriented in a north-south direction, measured 3 feet 4 inches by 1 foot 3 inches and was 8 inches deep and was partly disturbed. Inside was a burial of a teenage girl with the skull turned west-ward and crushed under the weight of the grave stone. The right hand was placed over the pelvic region while the left corssed over the navel holding the right hand wrist. The legs, though disturbed, were placed in a semi-flexed position.

Grave No. 34 :

This grave was located in Sq. 18/W, hardly 4½ inches below the present ground surface. The grave pit was found disturbed, perhaps by farmers, and measurements could not be recorded. The undisturbed portion of the grave contained fragmentary human bones.

Grave No. 35 :

This grave was located in Sq. 18/W, hardly 4 inches below the present ground surface of the mound. The grave pit, partly disturbed, measured 6 feet 4 inches by 1½ feet and it contained the complete burial of a female with left hand placed on the femur and the right stretched parallel to the body. The skull had already been removed from the grave except for its occiput.

Grave No 36 :

This grave was located in Sq. 18/X, hardly 3 inches below the present surface of the mound. The grave pit, partly under a baulk, measured 6 feet 10 inches by 1 foot 9 inches and was 5 inches deep. The upper part had been disturbed

by ploughing. Inside was the complete burial of a female and from the slightly bent left arm, it appeared that hand was placed in the pelvic region. The long bones were thin and slender.

Grave No. 37 :

The grave was located in Sq. No. 18/Y, hardly 2½ inches below the surface. The grave pit, due to disturbance, could not be measured or determined. Only fragmentary bones were recovered from the grave.

Grave No. 38 :

This grave was located in Sq. 17/Z and 18/Z, hardly two inches below the surface. The grave being situated on the edge of the mound had been partly washed away. Inside, the remains of a female burial were recovered.

Grave No. 39 :

This grave was located in Sq. 16/W and 17/W, hardly 4 inches below the surface and partly disturbed, measured 6 foot by 1 foot 9 inches. Inside was the complete burial of a male with arms stretched parallel to the body.

Grave No. 40 :

This grave was located in Sq. 17/X, hardly 3 inches below the present surface of the mound. The grave pit measured 6 feet 3 inches by 1½ feet by 8½ inches deep and contained the complete burial of a female with arms slightly bent and hands placed on the femur. The head, resting on the occiput, was slightly turned towards the north.

Grave No. 41 :

This grave was located in Sq. 16/Y, hardly 5 inches below the present ground surface. The grave was found disturbed on the west side. The pit measured 1 foot 9 inches wide by 9 inches deep and contained the burial of a female. The left hand was placed on the pelvic region and the right was stretched parallel to the body. The skull rested on left cheek, looking south ward.

Grave No. 42 :

This grave was located in Sq. 18/Z, hardly two inches below the surface, some fragmentary human bones are found. Owing to its situation on the tip of the edge of the mound, the grave had been washed away alongwith its burial remains.

Grave No. 43 :

This grave, partly under a baulk, was located in Sq. 16/Q, 4 feet one inch below the present surface of the mound (Fig. 11c) The grave pit measured 1 feet 9 inches wide and was 9 inches deep. Inside the grave was the complete burial of a female with right hand placed on the femur and the left stretched parallel to the body. The head was turned to the north.

Grave No. 44 :

This grave partly under the western baulk was located in Sq. 16/Q, 3 feet 3 inches below the present ground surface (Fig. 11c). The pit was 1 foot 11 inches wide and 13½ inches deep. This grave was super-imposed on, and disturbed, an earlier grave No. 45. Inside G-44 was the complete burial of young male extending in an east-west direction, with arms placed parallel to the body. The head, with gaping mouth and resting on occiput, was slightly turned towards south.

Grave No. 45 :

This grave located in Sq. 16/Q, was found supper-imposed and disturbed by G-44 (Fig. 11c). After removing the skeleton from G-44, a burial of a fairly young male was found inside G-45. The post-pelvic portion of Skeleton SKH-45 was found disturbed by G-44. The skull was also damaged. The skeleton in G-45 lay stretched in an east-west dierction with arms placed parallel to the body. The skull, resting on the left cheek, was turned to the south.

Grave No. 46:

This grave, partly under the western baulk, was located in Sq. 16/Q, 4 feet 7 inches below the present ground surface of the mound (Fig. 11c). The grave pit was 1 foot 10 inches wide and 11 inches deep. Inside the grave was the complete burial of a fairly young male, extending in an east-west direction with arms stretched parallel to the body. The head, with gaping mouth, rested on the occiput and faced sky-ward.

Grave No. 47 :

This grave partly disturbed, was located in Sq. 18/R and 17/R, 4 feet 5 inches below the present ground surface of the mound. Due to disturbance the measurements of the grave pit could not be recorded. Inside was the complete burial of a feamle with both hands placed in the pelvic region. The head, with gaping mouth and resting on the occiput, was slightly turned to north.

Grave No. 48 :

This grave, partly under the western baulk, was located in Sq. 16/R, 2 feet 9 inches below the present surface of the mound (Fig 11c). The pit was 1 foot 8 inches wide and 10 inches deep. Inside was the complete burial of a young male extending in an east-west direction with arms stretched parallel to the body. The skull, resting on left cheek, was turned south ward.

Grave No. 49 :

This grave, partly under the western baulk, was located in Sq. 16/R, 4 feet 1 inch below the present surface of the mound (Fig. 11c). The grave pit was 1 foot 9 inches wide and 9 inches deep. Inside the grave was the complete burial of a female extending in an east-west direction, with the left hand placed on the pelvis and the right stretched parallel to the body. The skull, resting on right check, was turned to the north.

Grave No. 50 :

This grave was located partly in Sq. 17/R and 16/R, 3 feet 6 inches below the present surface. The grave, extending east-west, had been disturbed by two rubbish pits of layer (2). The pit measured 1 foot and 8 inches wide and 9 inches deep. Inside the grave was a skeleton laid on its back with both hands on the pelvic region.

Grave No. 51 :

This grave was located in Sq. 16/R along the western baulk, 4 feet 1 inch below the present ground surface (Fig 11c). The grave, extending east-west, measured 1 foot 8 inches wide and was partly disturbed by a rubbish pit of layer (2). Inside was a complete human burial laid on its back with the right hand stretched parallel to the body. The left, was bent and the hand placed in the pelivic region. The head, though damaged, was obviously turned to the north. From the general appearance of the bones, the skeleton appears to be female.

Grave No. 52 :

This grave was located in Sq. No. 16/U and was partly disturbed by a rubbish pit of layer (2). At a depth of 1 foot 9 inches, the grave stones of G-52 were encountered. The grave, extending east-west, measured 2 feet wide and 10 inches deep. Inside was a complete human burial laid on its back with the left hand stretched parallel to the body and right placed on right femur. The skull was resting on the occiput.

Grave No. 53 :

This grave was located in Sq. 16/S along the western baulk. At the depth of 1 foot 9 inches, the grave stones of G-53 were encountered (Fig. 11c). The grave stones covered a grave extending in a south-east to north-west direction and measured 1 foot 10 inches wide and 9 inches deep. Due to limited time and rains, the grave could not be excavated.

Grave No. 54 (*Pl. XXV-a*) :

The grave was located in Sq. No. 16/T along the western baulk. 1 foot 9 inches below the present surface of the mound (Fig. 11c) The grave extending east-west, measured 1 foot 10 inches wide and 8½ inches deep. Inside was the complete burial of a male laid on its back with arms stretched parallel to the body and with head resting on right cheek, turned to the north.

Grave No. 55 :

This grave was located in 16/U extending in east-west direction and lying under the western baulk at a depth of 1 foot 8 inches below the present surface of the mound. A grave stone, placed on the head side of the grave, was encountered. The grave pit measured 1 foot 10 inches wide and 9 inches deep. Inside the grave the skull was exposed partly. For the protection of the skull a stone was found placed on the left side of it. After necessary record the grave was refilled.

Grave No. 56 (*Pl. XXV-b*) :

This grave was located in Sq. 16/T along the western baulk. At the depth 1 foot 6 inches from the present surface of the mound grave stone of G-56 was encountered (Fig. 11c). The grave, partly under the baulk extended in an east-west direction and measured 1 foot 9 inches wide and 9 inches deep. Inside the partly excavated grave was a human burial lying on its back with arms placed parallel to the body and the head, with gaping mouth, was turned to the north.

Grave No. 57 :

This grave was located in Sq. 16/R, 4 feet below the surface of the mound. The grave, extending in an east-west direction, measured 2 feet by 1 foot 4 inches and was 7½ inches deep. Inside the grave was the badly decomposed burial of a small child.

GRAVES OF LATE CEMETERY

Sixty five graves of Late Cemetery have been found so far at Sarai Khola. These graves were generally oriented in an east-west direction with slight variation. This variation was perhaps due to the seasonal position of the sun with respect to the earth in its orbit. The graves of the Late Cemetery were found disturbed by the refuse pits of Period IV, and had been robbed of their stone sealings, apparently by the people of Period IV who built their structures with this readily available material. The graves of the Late Cemetery have been numbered G-I, G-2, G-3 and so on, in the order of their discovery. The skeletons of Late Cemetery were marked SKH I(I), SKH 2(I), SKH 3(I), SKH 4(I) and so on according to the number of the graves. The detailed description of the excavation, grave-wise, is given below.

Grave No 1 :

This grave was located in Sq. 16/N, under the southern baulk of the Test Pit. At the depth of 1 foot 9 inches, below the present surface of the mound, the sealing stones of G-1 were encountered. They covered a rectangular grave pit extending from east to west. One foot two inches below the sealing stones were encountered long human bones but owing to the situation of G-1, under the southern baulk, the grave could not be excavated to expose the burial.

Grave No. 2 :

This grave was located in Sq. No. 16/N at the depth of 1 foot 10 inches from the present surface of the ground the sealing stones of G-2 were encountered. They covered a rectangular grave pit extending east-west and measuring 3 feet 2 inches by 1 foot. The grave pit was 1 foot 2 inches deep. Inside the grave was a complete child burial with the skull resting on right cheek and turned towards north. The skeleton was found largely decomposed.

Grave No. 3 :

This grave was located in Sq. 16/O, at a depth of 1 foot 11 inches below the present surface of the mound and the lower portion of the grave was disturbed by a rubbish pit of layer (2). After the removal of the sealing stones, at the depth of 1 foot 4 inches, a human burial was encountered, lying on its back and extended in an east-west direction.

Grave No. 4 :

At the depth of 3 feet 3 inches from the surface of the mound this grave was located in Sq. 16/O. The grave was disturbed and superimposed by G-3. The grave pit of G-4 was found disturbed alongwith its burial remains but 1½ inches below the floor of G-3 was found a complete human burial extending east-west with gaping mouth and the head turned slightly southward. Due to constant and heavy rains, it could not be properly ascertained whether this grave belonged to Late Cemetery or Early Cemetery.

Grave No. 5 (*Pl. XXVI-a* and *b*) :

This grave was located in Sq. 18/O. At a depth of 2 feet from the present surface of the mound, the sealing of G-5 was encountered. The stones covered a rectangular grave pit extending east-west and measuring 5 feet 2 inches by 1 foot 5 inches. Inside the grave pit, 13 inches deep, was a complete burial of a female on her back with the left hand placed on the femur and the right stretched parallel to the body. The head, with gaping mouth, rested on the occiput and was turned towards he north.

Grave No. 6 :

This grave was located in Sq. 18/O. At a depth of 2 feet below the present ground surface, the sealing stones of G-6 were encontered. They covered a rectangular grave pit extending east to west, measuring 6 feet 8 inches by 1 foot 5 inches deep. Inside the grave was a complete male burial lying on its back with arms placed parallel to the body and legs in semi-flexed position. The head, with gaping mouth, rested on the occiput and was turned to the north.

Grave No. 7 (*Pl. XXVI-c*, *Fig.* 14 and 15) :

This grave was located in Sq. 17/E and Sq. 18/E. At the depth of 9 inches below the present ground surface the sealing stones of G-7 were encountered. They covered a rectangular grave pit extending east to west and measuring 5 feet 9 inches by 1 foot 9 inches. Inside was the complete burial of a young female, on her back with the right hand on the pelvic region and the left, covering the breasts, was placed over the right shoulder. The right leg was stretched straight while the left leg was flexed and the foot rested on right ankle.

Grave No. 8 (*Pl. XXVI-d*, *Fig.* 14 and 15) *:*

This grave was located in Sq. 17 and 18/F. At the depth of 7 inches below the present surface of the mound, the sealing stones of G-8 were encountered. They covered a rectangular grave pit extending east to west and measuring 6 feet 2 inches by 1 foot 9 inches by hardly 10 inches deep. Inside was the complete burial of a famale on her back with the left hand placed on the femur and the right crossed, over the navel, held the left humerus. The body have been buried with personal ornaments which included an iron ring and a bracelet stone of carnelian.

Grave No. 9 *:*

This grave was located in Sq. 18/D, 11 inches below the present surface, the grave pit was 1 foot 9 inches wide and 10 inches deep. The grave had been disturbed by a rubbish pit of Period IV. Inside the grave was the skull of a young person resting on its left cheek. The post-cranial portion were found missing due to the disturbance caused by the pit of Period IV.

Grave No. 10 (*Fig.* 14 and 15 *:*)

This grave was located in Sq. 17/E. At the depth of 7 inches below the present surface of the mound only two of the sealing stones were encountered. After there removal a rectangular grave pit was marked. The grave pit measured 9 feet by 1 foot 10 inche and was 10 inches deep. Inside was the complete female burial laid on her back with the left hand placed in the pelvic region and the right stretched parallel to the body. The head, with gaping mouth and resting on the occiput, was turned slightly towards the north.

Grave No. 11 (*Fig.* 14 and 15) *:*

This grave was located in Sq. 17/F. At the depth of 7 inches below the present surface of the mound the sealing stones of G-11, were encountered. They covered a rectangular grave pit extending east-west and measuring 5 feet 5 inches by 1 foot 8 inches. The grave pit was 9½ inches deep and contained the complete burial of a young male laid on back with arms stretched parallel to the body and the head, with gaping mouth, turned to the north.

Grave No. 12 (*Fig.* 14 and 15) *:*

This grave was located in Sq. 16/F and Sq. 17/F. At the depth of ½ inches below the present ground surface the sealing stones of G-12 were encountered. They covered a rectangular grave pit extending east-west and measuring 1 foot 11 inches wide. The grave was found partly disturbed by G-11 in the east and partially, perhaps, by ploughing, in the west. The pit was 8 inches deep and contained the burial of a female, laid on her back with left hand placed in the pelvic region and the right parallel to the body. The skull and feet were missing.

Grave No. 13 (*Fig.* 14 and 15) *:*

This grave was located in Sq. 16/E, hardly 6 inches below the present ground surface. The grave pit, partially disturbed, measured 6 feet 2 inches by 1 foot 7 inches and was 8½ inches deep. Inside the grave was a partly distured burial of a female individual laid on her back with the right hand placed on the femur and the left parallel to the body. The skull, partly missing, was found resting on the occiput and turned north ward.

Grave No. 14 *:*

This grave was located in Sq. 17/E, hardly 4 inches below the present surface of the mond. The grave considerably disturbed contained completely decomposed and fragmentary bones of a child.

Grave No. 15 *:*

This grave was located in Sq. 13/F and Sq. 14/F, hardly 4 inches below the present surface of the mound. The grave pit measured 4 feet 3 inches by 1½ feet and was 7½ inches deep. Inside the grave was the completely decomposed skeleton of a child.

Grave No. 16 *:*

This grave was located in Sq. 11/F and Sq. 12/F, 12 feet below the present surface of the mound. Only 3 of the sealing stone were encountered. They covered a rectangular grave pit, extending east-west and measuring 5 feet 8 inches by 1 foot 10 inches by 10 inches deep. Inside the grave only the skull was exposed which was found resting on the right cheek. Due to heavy rains, the rest of the grave could not be excavated.

Grave No. 17 (*Fig.* 14 and 15):

This grave was located in Sq. 15 and 16/H, 1 foot below the present surface of the mound. It had been disturbed by a pit excavated from the surface, perhaps, by the farmers in the recent past. The grave pit roughly measured 5 feet 9 inches by 1 foot 11 inches and was 10 inches deep. Inside was a complete human burial in a disturbed position. The head with gaping mouth was resting on the right cheek.

Grave No. 18 (*Fig.* 15):

This grave was located in Sq. 15 and 16/H, 1 foot below the present surface of the mound. The sealing stones were missing from the grave which, extended east-west, measured 5 feet 9 inches by 2 feet by 11 inches deep. Inside was a complete male burial laid on back with arms placed parallel to the body. The head, with gaping mouth, rested on the occiput.

Grave No. 19:

This disturbed grave was located in Sq. 14/H, 1 foot 1 inch below the present surface and was 1 foot 10 inches wide. Due to disturbance in the upper portion the depth of the grave pit could not be recorded. The grave had been further disturbed by a rubbished pit of Period IV. Inside the remaining portion of the grave was a human burial laid on its back. The haed, resting on the occiput, was turned southward.

Grave No. 20 (*Fig.* 14):

This grave was located in Sq. 18/H, 1foot 3½ inches below the present surface of the mound. The rectangular grave pit, extending esat-west, measured 1 foot 8 inches wide. Inside, only a human skull was partially exposed. resting on the occiput and turned south-ward. The rest of the grave could not be excavated due to heavy rains and an accumulation of water in the trench.

Grave No. 21:

This grave was located in Sq. 19/D on the eastern slopes of the mound, hardly 3 inches below the surface of the sloping mound. The eastern half of the

grave had been partly disturbed by a refuse pit of Period IV and was partly washed away. Inside the grave was a female burial of which only the post cranial skeleton was found lying on its back with the right hand in the pelvic region. Three sealing stones were resting on the skeleton and on the grave floor, due to percolation.

Grave No. 22 (*Pl. XXVII-a* and *b*) :

This grave was located in Sq. 19/D, on the north eastern slopes of the mound, hardly 4 inches below the present surface. The eastern portion of the grave had been partly washed away and it had been disturbed by a stone sealed rubbish pit of Period IV (Pl. XXVII-a). The grave, extending east-west, roughly measured 6 feet by 2 feet and was 9½ inches deep. Inside was a complete female burial with the left hand placed in the pelvic region and the right hand stretched parallel to the body. The legs were in a semi-flexed position. An iron ring was recoverd from the left hand ring-finger.

Grave No. 23 (*Pl. XXVII-a* and *c*) :

This grave was located in Sq. 19/E on the north eastern slopes of the mound. At the depth of 10 inches below the present surface of the mound the sealing stones of G-23 were partly exposed. They covered a rectangular grave pit extending east-west and measuring 1 foot 8 inches wide and 10 inches deep. The grave had been washed away on the eastern side and was disturbed by a rubbish pit of Period IV on the west (Pl. XXVIII-a). Inside the grave was a female burial with the right hand placed on the femur and the left stretched parallel to the body. The head, resting on the occiput, was turned slightly to the north.

Grave No. 24 (*Pl. XXVIII-a* and *b*) :

This grave was located in Sq. 19/F. At a depth of 1 foot 4 inches from the present surface of the mound the sealing stones of G-24 were encountered. They covered a rectangular grave pit extending east-west and measuring 5 feet 8 inches by 1 foot 8 inches and 13 inches deep. Inside was the complete burial of a male laid on back with arms placed paralled to the body and with the head, mouth gaping, resting on right cheek. During the course of excavation, heavy rains resulted in the collaps of the western part of G-24.

Grave No. 25 :

This grave was located in Sq. 19/F, 1 foot 4 inches below the present surface of the mound. The grave pit was oriented in a north-east and south-west direction. It measured 4 feet 8 inches by 2 feet and was 13 inches deep. Inside was the complete burial of a minor girl with the right hand placed on the pelvic region and the left stretched paralel to the body. The head, resting on its left cheek, faced southward. The right leg was stretched straight and the left was in a flexed position.

Grave No. 26 (*Pl. XXVIII-c*, *XXVIII-d* and *Fig.* 16) :

This grave was located in Sq. 17/D. At a depth of 11 inches below the present surface the sealing stones of G-26 were encountered (Fig. 14). They covered a rectangular grave pit extending in an east-west direction and measuring 5 feet 9 inches by 1 foot 10 inches (Fig. 15) by 14 inches deep. Inside the grave was a complete female burial on her back with the right hand in the pelvic region and the left stretched parallel to the body. The head was resting on the occiput (*Fig.* 15). An iron rod five inches long was found placed on the inner side of the right elbow joint (Pl. XXVIII-d, Fig. 15 and 16).

Grave No. 27 (*Fig.* 14) :

This grave was located in Sq. 16/D. At the depth of 10 inches below the present ground surface, the sealing stones of G-27 were encountered. This grave has not yet been opened.

Grave No. 28 :

This grave was located in Sq. 16/D. At the depth of 10 inches below the present ground surface the sealing stones of G-28 were exposed (Fig. 14). The grave had been disturbed by a rubbish pit from layer (2). The sealing stones covered a rectangular grave extending east-west and measuring 6 feet 2 inches by 1 foot 10 inches by 11 inches deep (Fig. 11-d). Inside was a complete female burial on its back with the left leg extended and the right in semi-flexed position. The right hand was placed on the right femur and the left was stretched parallel to the body. The head, resting on the right cheek, was turned to the north (Fig. 15).

Grave No. 29 :

This grave was located in Sq. 13/N, 1 foot 8 inches below the present ground surface. The rectangular grave, extending east-west, measured 5 feet 11 inches by 1 foot 8 inches. Sealing stones were not recorded on this grave. Excavation was abondoned due to inclement weather and the partly excavated grave was refilled.

Grave No. 30 :

This grave was located in Sq. 19/E, 1 foot below the present ground surface. The rectangular grave pit, extending east-west, measured 4 feet 5 inches by 1 foot 6 inches by 10 inches deep. Inside was the complete burial of a teenage girl, lying on her back with the left hand placed in the pelvic region and the right extended straight. The head, resting on the right cheek, was turned to north and the legs were in flexed position. The grave was slightly disturbed by a rubbish pit of Period IV.

Grave No. 31 :

This grave was located in Sq. 18/E, 1 foot 3 inches below the present ground surface. The grave extending east-west, was found disturbed by a stone-filled sanitary pit of Period IV. The grave pit measured 1 foot 8 inches wide and was 1 foot 2 inches deep. Inside was a complete male burial lying on back with arms stretched parallel to the body and with head resting on right cheek and turned to the north.

Grave No. 32 (*Fig.* 15) :

This grave was located in Sq. 16/D, hardly 5 inches below the present ground surface. The grave, extending east-west, had been disturbed by a rubbish pit of Period IV. The grave pit measured 1½ foot wide and was 1 foot 1 inch deep. Inside the grave was a female burial lying on its back with left hand placed on the pelvic region and the right stretched parallel to the body. The head, resting on the right cheek, was turned to the north.

Grave No. 33 (*Fig.* 15) :

This grave was located in Sq. 16/F, 13 inches below the present ground surface. The rectangular grave, extending east-west, was found disturbed by a rubbish pit of layer (2) and it measured 1 foot 8 inches wide by 11½ inches

deep. Inside the grave was a male burial lying on its back with arms stretched parallel to the body. The head, resting on the occiput, was turned to the north. The post pelvic portion were missing due to disturbance by a rubbish pit of Period IV.

Grave No. 34 (*Fig.* 15) *:*

This grave was located in Sq. 16/F, 14 inches below the present ground surface. The grave, extending east-west, was disturbed by two rubbish pits of layer (2), at the eastern and western ends. The pit measured 1 foot 8 inches wide by 11 inches deep. Inside was a female burial with the right hand in the pelvic region and the left stretched parallel to the body.

Grave No. 35 *:*

This grave was located in Sq. 18/I. At a depth of 1 foot 2 inches from the surface of the mound, the sealing stones of G-35 were encountered. Covering a rectangular grave extending in an east-west direction. The grave lay partly under the eastern baulk. It was not excavated.

Grave No. 36 *:*

This grave was located in Sq. 18/I. At the depth of 1 foot 1 inch below the surface of the mound the sealing stones of G-36 were encountered. The covered a rectangular grave extending diagnoally in an east-west direction. They grave measured 5 feet 4 inches by 1 foot 8 inches. The grave was not excavated owing to inclement weather.

Grave No. 37 *:*

This grave was located in Sq. 18/I, 11 inches below the present surface of the mound. The grave, oriented east-west, measured 6 feet 10 inches by 1 foot 10 inches by 1 foot 2 inches deep. Inside was a complete female burial laid on back in an extended position. The left hand was placed in the pelvic rigion and the right was streteched parallel to the body. The head, resting on the right cheek, was turned to the north.

Grave No. 38 *:*

This grave was located in Sq. No. 17/J. At the depth of 1 foot 2 inches below the present surface the sealing stones of G-38 were encountered. The grave, extending in an east-west direction, was found disturbed by rubbish pits

of Period IV The grave was 1 foot 5 inches wide by 14 inches deep. Inside the grave was a female burial laid on back in an extended position with right hand placed in the pelvic region and the left on the right breast.

Grave No. 39 :

This grave was located in 16/J. At a depth of 1 foot 2 inches below the present surface of the mound, the sealing stones of G-39 were encountered. They covered a rectangular grave extending in an east-west direction. The grave pit measured 5 feet 8 inches by 1 foot 9 inches. The grave was not excavated owing to rain.

Grave No. 40 :

This grave was located in Sq. 17/I. At the depth of 1 foot 3 inches below the present surface of the mound the sealing stones of G-40 were encountered. They covered a rectangular grave, extending in an east-west direction and measuring 5 feet 7 inches by 1 foot 8 inches. The grave had been partly disturbed by a rubbish pit of Period IV. The grave was not excavated.

Grave No. 41 :

This grave was located in Sq. No. 16/I. At the depth of 10 inches, below the present surface the sealing stones of G-41 were encountered (Fig. 11d). They covered a rectangular grave extending diagonally in an east-west direction. The grave was partly under the western baulk and was not excavated by reason of adverse weather.

Grave No. 42 :

This grave was located in Sq. 17/J. At the depth of 1 foot 3 inches below the present surface of the mound the sealing stones of G-42 were encountered. They covered a rectangular grave extending diagonally in an east-west direction. The exact measurements of the grave could not be obtained nor was it excavated owing to adverse weather.

Grave No. 43 :

This grave was located in Sq. 16/K. At the depth of 1 foot 7 inches below the surface of the mound the stone sealing of G-43 were encountered (Fig. 11d). They covered a rectangular grave extending diagonally in an east-west direction. The grave, partly under the western baulk, was not opened.

Grave No. 44 :

This grave was located in Sq. 18/K. At the depth of 1 foot 2 inches, below the present surface of the mound the sealing stones of G-44 were encountered. They covered a rectangular grave extending diagonally in an east-west direction. The grave lay partly under the eastern baulk and was not opened for want of time.

Grave No. 45 :

This grave was located partly in Sq. 17 and 18/K. The grave, extending diagonally in an east-west direction, measured 1 foot 10 inches wide by 9 inches deep. The grave was disturbed on the west by a rubbish pit of Period IV. Inside was a female burial laid on back in an extended position with the right hand placed parallel to the body and the left placed on the femur. The head, with gaping mouth, was resting on the occiput and was turned slightly to the south.

Grave No. 46 :

This grave was located in Sq. 18/L. At the depth of 1 foot 4 inches below the present surface of the mound the sealing stones were encountered. They covered a rectangular grave, extending diagonally in an east-west direction. The grave lay partly under the eastern section and due to limited time was not excavated.

Grave No. 47 :

This grave was located partly in Sq. 17 and 18/M. At the depth of 1 foot 5 inches, below the present surface of the mound, the sealing stones of G-47 were encountered. They covered a rectangular grave, extending diagonally in an east-west direction. The grave remained unexcavated for want of time and fair weather.

Grave No. 48 :

This grave was located in Sq. 17/M. At the depth of 1 foot 5 inches, below the present surface of the mound, the sealing stones of G-48 were encountered. They covered a small rectangular grave, perhaps of a child. The grave was not excavated.

Grave No. 49 :

This grave was located in Sq. 17 and 18/J .At the depth of 1 foot 8 inches, below the present surface of the mound, the sealing stones of G-49 were encountered. They covered a rectangular grave extending diagonally in an east-west direction. The grave measured 5 feet 8 inches by 1 foot 8 inches. The grave was not excavated.

Grave No. 50 :

This grave was located in Sq. 16/L. At the depth of 1 foot 10 inches, below the present surface of the mound the sealing stones of G-50 were encountered (Fig. 11d). They covered a rectangular grave, extending an in east-west direction and measuring 6 feet 4 inches by 1 foot 8 inches. The grave was not excavated.

Grave No. 51 :

This grave was located in Sq. 16/M. At the depth of 1 foot 6 inches, below the present surface of the mound, the sealing stones of G-51 were encountered. They covered a rectangular grave extending in an east-west direction and measuring 1 foot 8 inches wide in the western part. The grave was disturbed by a rubbish pit of layer (2). The grave was not opened for want of fair weather.

Grave No. 52 :

Partly under the western baulk, the grave was located in Sq. 16/M. At the depth of 1 foot 7 inches, below the present surface of the mound, the sealing stones of G-52 were encountered. They covered a rectangular grave extending diagonally in an east-west direction and measuring 1 foot 10 inches wide. The grave could not be excavated due to the rainy season.

Grave No. 53

This grave was located in Sq. 17/L. At the depth of 1 foot 7 inches below the present surface of the mound, the disturbed sealing stones of G-53 were encountered. The grave could not be opened for want of fair weather.

Grave No. 54 (*Fig.* 14 and 15) :

This grave was located in Sq. 18/G. At the depth of 1 foot 3 inches from the present surface of the mound, the sealing stones of G-54 were encountered. They covered a rectangular grave extending diagonally in an east-west direction.

The grave, disturbed on either side by two rubbish pits, measured 1 foot 8 inches wide and one foot deep. Inside was the burial of a young female laid on back in an extended position. The left hand, crossing over the navel, was placed on the right femur. The right, completely folded arm was placed over the breasts. The head was turned to the north.

Grave No. 55 *:*

This grave was located in Sq. 17/G and 18/G. At the depth of 16 inches, below the present surface of the mound, the sealing stones of G-55, partly missing, were encountered. They partly covered a rectangular grave, extending east-west, which measured 6 feet by 1 foot 9 inches by 1 foot 4 inches deep. Inside was a complete female burial laid on her back in an extended position. The left hand was placed in the pelvic region and the right was stretched parallel to the body. The head, partly dammaged, was resting on the occiput.

Grave No. 56 (*XXIX-a* and *Fig.* 15) *:*

This grave was located in Sq. 17 and 18/G, 16 inches below the present surface of the mound. It extended east-west and measured 5 feet 2 inches by 1 foot 6 inches by 1 foot 4 inches deep. Inside was a complete human burial laid on its back in an extended position with the left hand placed on the femur and the right parallel to the body. The skull was completely crushed.

Grave No. 57 (*Pl. XXIX-a* and *Fig.* 15) *:*

This grave was located in Sq. 17/G, 15 inches below the present surface of the ground. The grave, partly disturbed by a rubbish pit of layer (2), extended in an east-west direction and measured 5 feet 8 inches by 1 foot 8 inches by 16 inches deep. Inside was a male burial laid on back in an extended position with the arms stretched parallel to the body. The head was resting on the occiput.

Grave No. 58 (*Pl. XXIX-a*, *Fig.* 14 and 15) *:*

This grave was located in Sq. 17/G, 11 inches below the present surface of the mound. Partly disturbed by G-57 it was oriented diagonally in an east-west direction. It measured 5 feet 6 inches by 1 foot 9 inches by 1 foot 3 inches deep. Inside was the burial of a female laid on its back in an extended position. The right hand was placed in the pelvic region and the left was stretched parallel to the body.

Grave No. 59 (*Fig.* 15) :

This grave was located in Sq. 16/G, 1 foot 6 inches below the present surface of the mound. The grave, extending diagonally in an east-west direction, had been disturbed by two rubbish pits of Period IV. The grave measured 1 foot 9 inches wide and 1 foot deep. Inside was a male burial laid on back with arms stretched parallel to the body. The head, resting on the occiput, was turned to the south.

Grave No. 60 (*Pl. XXIX-b*) :

This grave was located in Sq. No. 16/E, 8 inches below the present surface of the mound (Fig. 11d). Extending in an east-west direction, the grave was partly under the western bualk (Fig. 11d). The pit measured 1 foot wide and 8 inches deep. Inside the grave was a complete male burial laid in an extended position. The arms were stretched parallel to the body and the head, resting on the occiput, was slightly turned to the north. A bracelet of tiny paste beads with two iron clasps was found on the left wrist.

Grave No. 61 (*Fig.* 15) :

This grave was located in Sq. 16 and 17/H. The grave, extending in an east-west direction, was found dirturbed partly by G-62 and a rubbish pit of Period IV. It measured 1 foot 11 inches wide by 1 foot 2 inches deep. Inside was a human burial laid on its back in an extended position with the right arm stretched parallel to the body and the head, resting on the occiput, was turned to the south.

Grave No. 62 (*Fig.* 14 and 15) :

This grave was located in Sq. 16/H. 1 foot 2 inches below the present surface of the mound. The grave, extending east-west measured 6 feet 6 inches by 2 feet by 1 foot deep. In the north-western part, the grave was slightly disturbed by a rubbish pit of layer (2). Inside was a complete female burial, laid on its back in an extended position. The right hand was placed in the pelvic region and the left was stretched parallel to the body. The head, resting on the occiput was slightly turned to the north.

Grave No. 63 (*Fig.* 14) :

This grave was located in Sq. 16/G. At the depth of 1 foot 2 inches, below the present surface of the mound, sealing stones of G-63 were encountered.

They covered a rectangular grave pit, extending in an east-west direction and measuring 5 feet 8 inches by 1 foot 8 inches by 14 inches deep. Due to rain in the area, the excavation of the grave was not completed.

Grave No. 64 (*Fig.* 14) *:*

This grave was located partly in 16/H and 17/H. At the depth of 1 foot 3 inches, from the surface, the sealing stones of G-64 were encountered. They covered a rectangular grave, extending in an east-west direction. Due to shortage of time the grave was not excavated.

Grave No. 65 *:*

This grave was located partly in Sq. 16/H and 16/I. At the depth of 2 feet 2 inches from the surface, the sealing stones of G-65 were encountered. They covered a rectangular grave, extending in an east-west direction. The grave lay partly under the western baulk and due to limited time was not excavated.

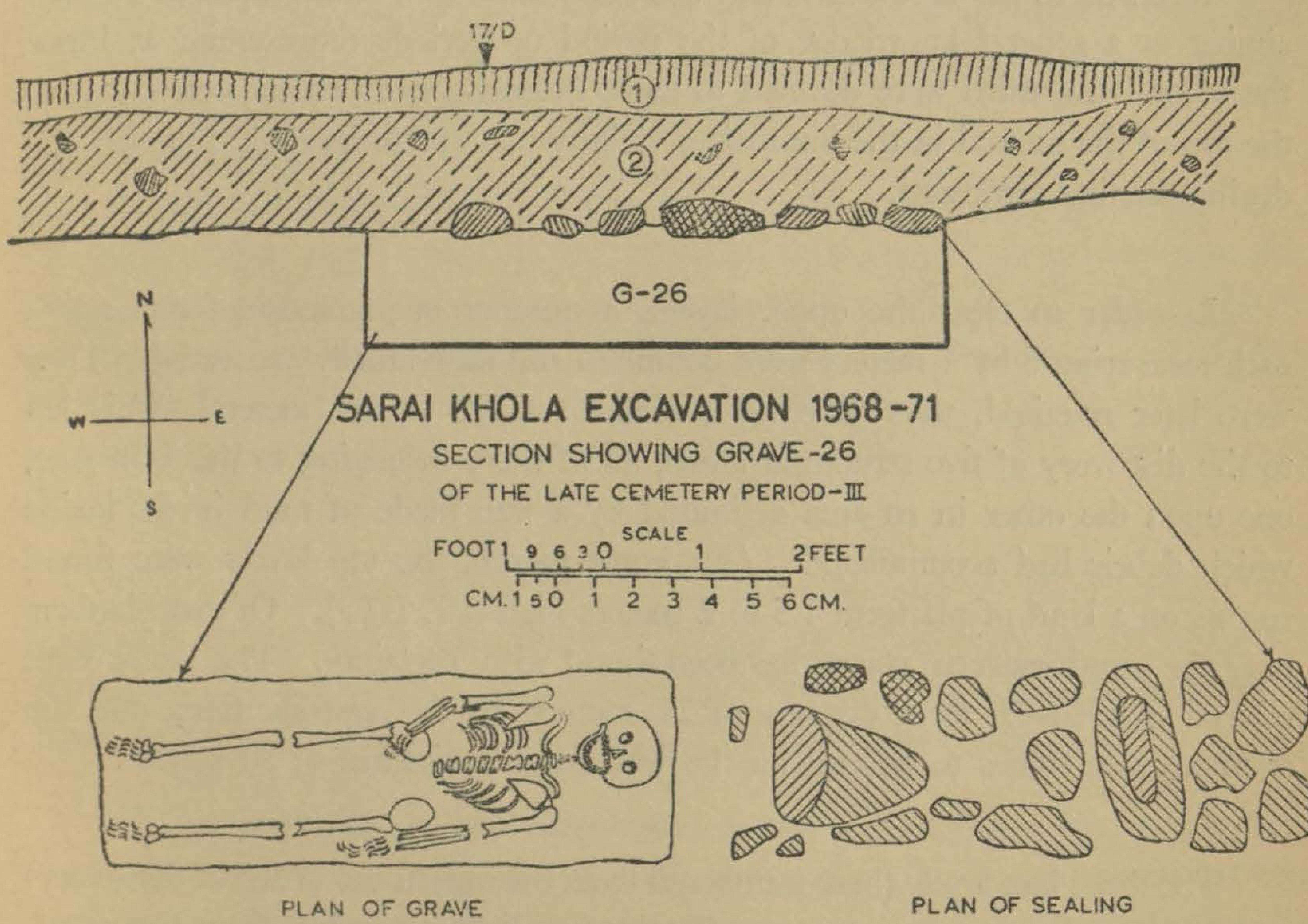


Fig. 16

PRELIMINARY REPORT ON THE EXCAVATIONS AT PIRAK

(1968-70)

by

J.M. Casal

[Plates XXX - XXXIII. Figs. 17 to 20]

WHEREAS the first season had been dedicated to a stratigraphical sondage aiming at a general knowledge of the period or periods represented at Pirak, the second and third were devoted to more extensive excavations, starting from the top of the mound in the immediate vicinity of the stratigraphical trench dug during the first campaign.

In order to clear the upper layers, a number of juxtaposited rectangles, each measuring 8 by 4 meters were delimited and individually excavated. They were later reunited, thus covering a surface of 750 square meters. This led to the discovery of five structural levels, all of them belonging to the Iron Age, one upon the other in an area delimited by a wall made of mud bricks inside which debris had accumulated. As a consequence, the top levels were found resting on a kind of platform 1.5 to 2 meters high (P1. III a). Of that platform only the south-eastern corner has been found with certainty. The walls were cleared in 1968-69 for a distance of 21 meters on the eastern face, but the southern side comes to an end on the west after a distance of 30 meters.

The three last levels (here numbered from the top, in the order of discovery) seem to be only poor successive readjustments of what was left from the structures of level 4. The top level (Level 1) consisted only of a few fragments of walls and a patch of mud brick flooring with a hearth discovered under the heap

of ashes att he top of the mound in a small area bordered by four walls. These walls were later found to be the upper portion of a room (Room VI) belonging to an older level. On the eastern side of that room and contemporary with the last occupation, a vaulted kiln had been built in a deep pit dug into older layers, but nothing gave a clue as to its use.

Concerning the level just below (level 2), nothing very important has to be said but a well, lined with keyshaped burnt bricks, was traced.

As for the third level, the plan begins to fill, but the main elements comprise a few rooms the walls of which belonged to a preceding structure and had been only raised higher.

The first plan, recovered nearly in its entirety, is that of the fourth level (Fig. 1) and here a few particulars have to be noticed:

(1) The structures have been built, not on flat ground but on a sloping surface which rises from south to north (fig. 1, and 2, profile AB) and from west to east (same fig., profile CD). The changes in level are marked by steps in the flooring. Furthermore, one room (No. XIII) had been built at a higher level than the adjacent loci so that access was given to it through three flights of steps leading to doors on the northern and southern sides.

Due to the general slope of that structural complex, the rooms and loci, recorded on the western side of the excavated area happen to be very near the present surface of the mound and at the same level as the ground of locus XLV on the outside of that complex. On the reverse, on the eastern end of that block, one door pierced through the outer wall was well above the ground outside, so that a staircase or an access ramp, the remains of which have been cleared, had to be built on that eastern side.

As a consequence, rain water must have run west-wards, damaging the structures on the west. This seems to be the sole explanation for the bad conditions on that side where a deep pit has been found in the middle of a masonry block and where walls had been damaged by water streaming down.

(2) One noticable feature of the houses belonging to that level is the large use made of niches (or cupboards) fitted in the thick walls. Nearly all the rooms have such niches, but the one best provided is room IX. It is an irregularly built rectangle with a door in the western wall. All treaces of daily life (potsherds, ashes) are concentrated in the southern portion. There is also near the door,

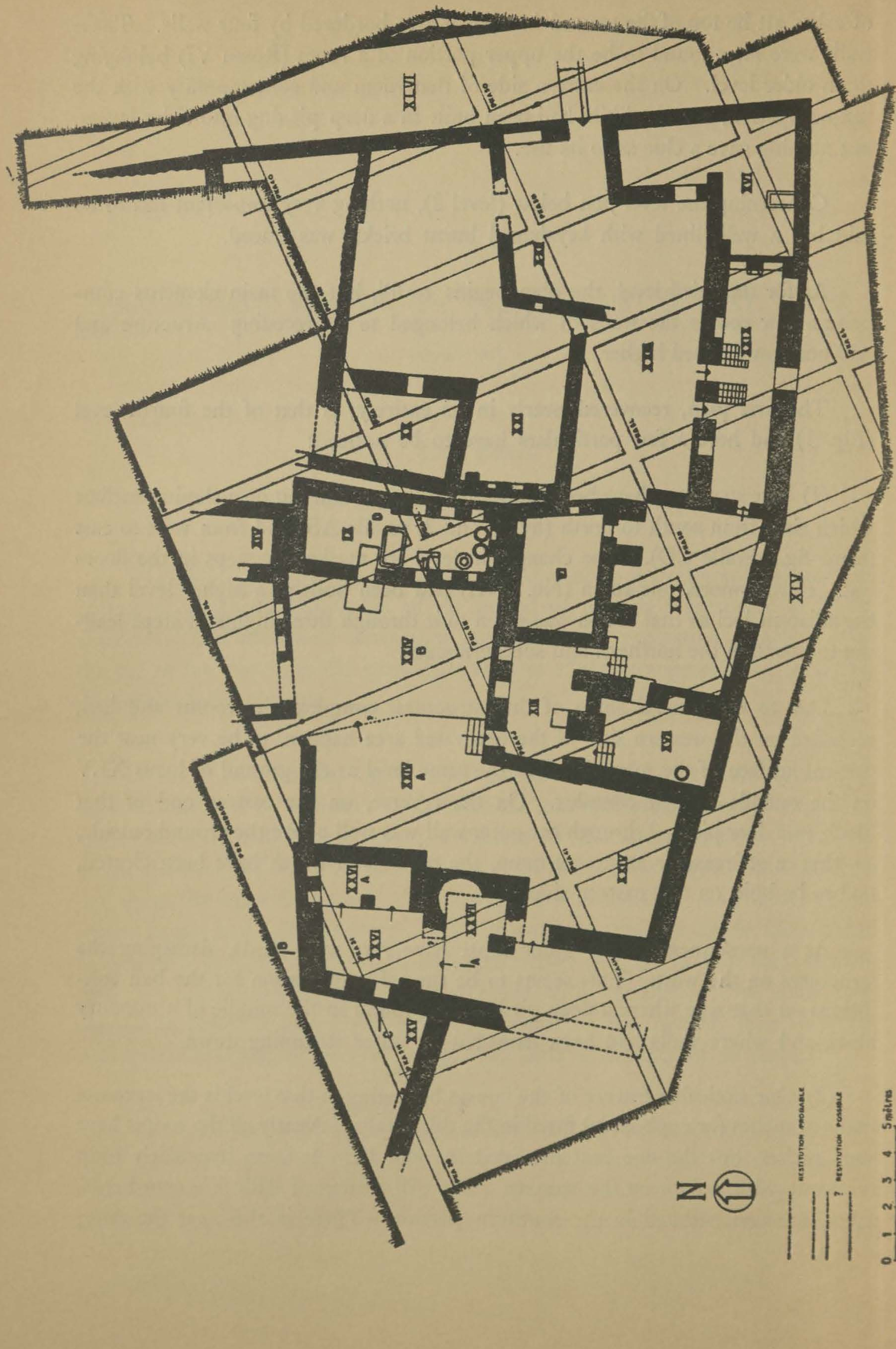


Fig. 17. Pirak. Plan of the 4th level

a kind of rectangular flat vat, made of pise, which precludes its being used for washing or for water storage. Nothing has been discovered inside to give us information as to the purpose it served. Next to it, is a small somewhat square fixture which was full of ashes and can be identified as a domestic hearth, and near the southern end of the room were three interred big jars the necks of which just were level with the floor. Eight niches had been fitted in the same southern part of the room, three each on the eastern and western walls, and two in the southern wall (Pl. IV).

These niches had been whitewashed inside as had been the walls of the room. The upper part of the niches was supported by a wooden lintel, remains of which have been found in situ[1]. Later the niches were filled with mud brick, the work having been carefully done, and a new coating of whitewash had been applied. In room XIII, too, the niches had been similarly blocked and whitewashed.

(3) Other architectural peculiarities which can be noted in the same level are pillars and buttresses. Thick buttresses have been found only on the southern wall of room VI on the outside, but pillars have been noticed more or less everywhere. They are an inheritance of earlier times because in the underlying level (only partially excavated so far) they seem to have been in use even on a larger scale. As regards the fourth level, pillars can be seen in rooms XXVIA and XXIII. As for room XXI which could have had one, nothing similar has been observed, and this room seems to have been substantially open on one side.

(4) The last point relating to that level deals with its end and destruction. There is corroborative evidence of its having been destroyed by an earthquake, and for such an hypothesis there are a few observable facts. One of them is the displacement of the buttresses on the southern face of room VI (Pl. V). As appears from the photograph, instead of standing upright as does the door in the wall, they are now slanting and could only have so moved if they were standing in the open and not buried at the moment it happened. Similarly, as we have seen, the remains of a ramp or staircase have been discovered on the eastern side of the block. We were much disturbed, when finding it, to see that it was not exactly facing the door it was supposed to lead to, and we later came to the conclusion that the explanation had to be the same as for the buttresses. Finally there does not seem to be another cause for the discovery in room XXIX of two patches of wall laying flat with bricks on edge. They evidently belong to the pillar and frame of the door between XXIX and XXIII.

1. These wood remains have been sent with others from the same levels for C. 14 datings, but the results are not yet known.

That such an earthquake must have been accompanied by heavy rain seems to be further evidence if we refer to the huge quantities of water, already mentioned above, which ran down on the western slope of the mound digging pits, washing walls away.

If this fourth level as a whole yielded rather good structural remains enabling us to draw a good plan, we must nevertheless confess its incompleteness. All the structures recorded seem to belong to a same complex bordered by a continuous wall on the southern and eastern sides. The western end of the southern wall is not clear due to erosion, but the eastern face stretches northward further than the area excavated. Additional clearing in rectangle PK. A—30 failed to find its end or even a corner.

On the other hand, clearing work in locus XLVI, on the east, put in evidence a piece of wall running parallel to the first, thus suggesting locus XLVI could be a street oriented north-south between two blocks of structures similar to each other. Such a view could be supported by the general appearance of the site. Our excavation had been pitched on the highest point of the mound, but there are everywhere similar smaller summits separated by shallow or deep gullies and usually crowned by hardened heaps of ash resembling that discovered on top of room VI and belonging to level 1.

If we now turn to objects discovered in these levels, a few groups must be mentioned.

All these levels are characterized by an abundance of black pottery with grey core (Pl. III B). It is usually burnished and often made on the wheel. It includes mostly basins or shallow bowls, often carinated, but a few fragments of pitchers have been found. One sherd geometrically decorated with incisions bears some resemblance to specimens of Jhangar pottery.

Along with this group, there is a huge quantity of crude, handmade, whitish pottery, cooking pots, basins and jars, which are sometimes plain, sometimes decorated with applique cordons bearing fingertip impressions or oblique incisions (Pl. VI, 14,15,16).

As for the typical bichrome decorated Pirak ware, many small sherds have been found, but very few important sherds and still less complete pots. This kind of ware consequently seems to have been no longer in use and the specimens found seem rather to be sherds accidentally taken up from lower levels.

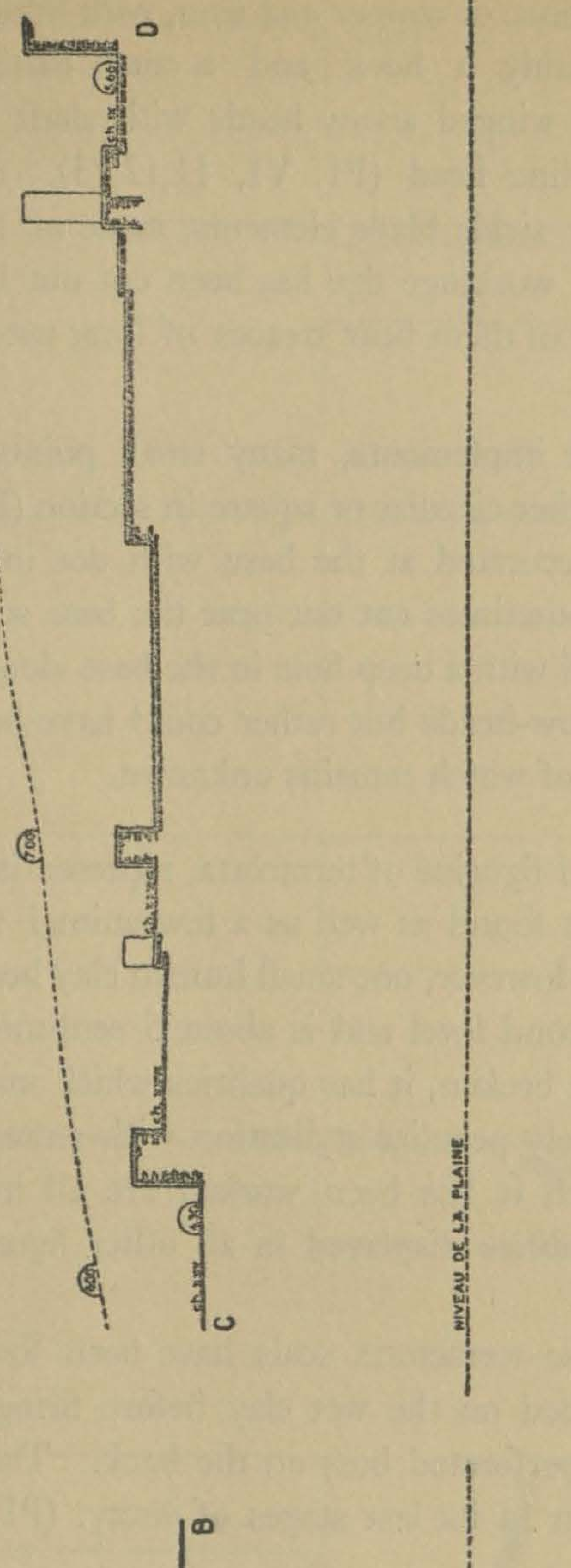


Fig. 18. Pirak. 4th level. Diagram of contour

All this apart, the most striking feature of those upper levels is the co-occurence of metal, bronze or copper *and* iron, with lithic tools. Of bronze there are a few objects, notably a hook and a small flattish spatula (Pl. VI, 5,6). Of iron, several two winged arrow heads with shaft have been discovered as well as a shafted javeline head (P1. VI, 11,12,13). As regards lithic implements, they are mostly sickle blade elements, made of flint, and what is peculiar with them is that the workinge dge has been cut out in the shape of crenels or denticulations. Many of them bear treaces of long use and wear (P1. VI, 1-4).

Beside these flint implements, many small points of bone have been recovered. They are either circular or square in section (P1. V I7-10). The round ones are sometimes decorated at the base with dot in circles by incision, and the square ones are sometimes cut out near the base so as to form small wings. All of them are pierced with a deep hole in the base along the axis. Such objects do not seem to be arrow-heads but rather could have been used as handles for small tools the nature of which remains unknown.

One very damaged figurine of terracotta, representing a woman with pinion-shaped arms, has been found as well as a few animal figurines, all of them in very bad condition. However, one small human clay head is well worth mention. It comes from the second level and is about 5 centimeters high. Though it is damaged and the nose broken, it has qualities which make it an object of special interest at Pirak, namely peculiar stylization with strange slanting eyes, and the great care with which it has been worked are all in sharp contrast to the shortcomings and crudities displayed in all other figurines (P1. VI, 17).

A few very coarse terractotta seals have been found. They bear either simple designs, scorched on the wet clay before firing, or rows of deep small holes, and there is a perforated boss on the back. They seem to be specimens of a very old tradition in its last stages of decay. (P1. VI, 18, 19).

Without forming any hasty opinion on the results of work yet to be done, it can be expected that one more level will be cleared belonging to the same period. That fifth level has, so far, been only partially excavated. Charcoal collected during the first season in the stratigraphical trench and belonging to that same level has been tested for C.14[2] and given a date of 785 ± 105 BC (half life—5730 years). This would place the fifth level between 700 and 900 BC. The four levels excavated (for which other datings are expected) would thus

2. Sample TF-861.

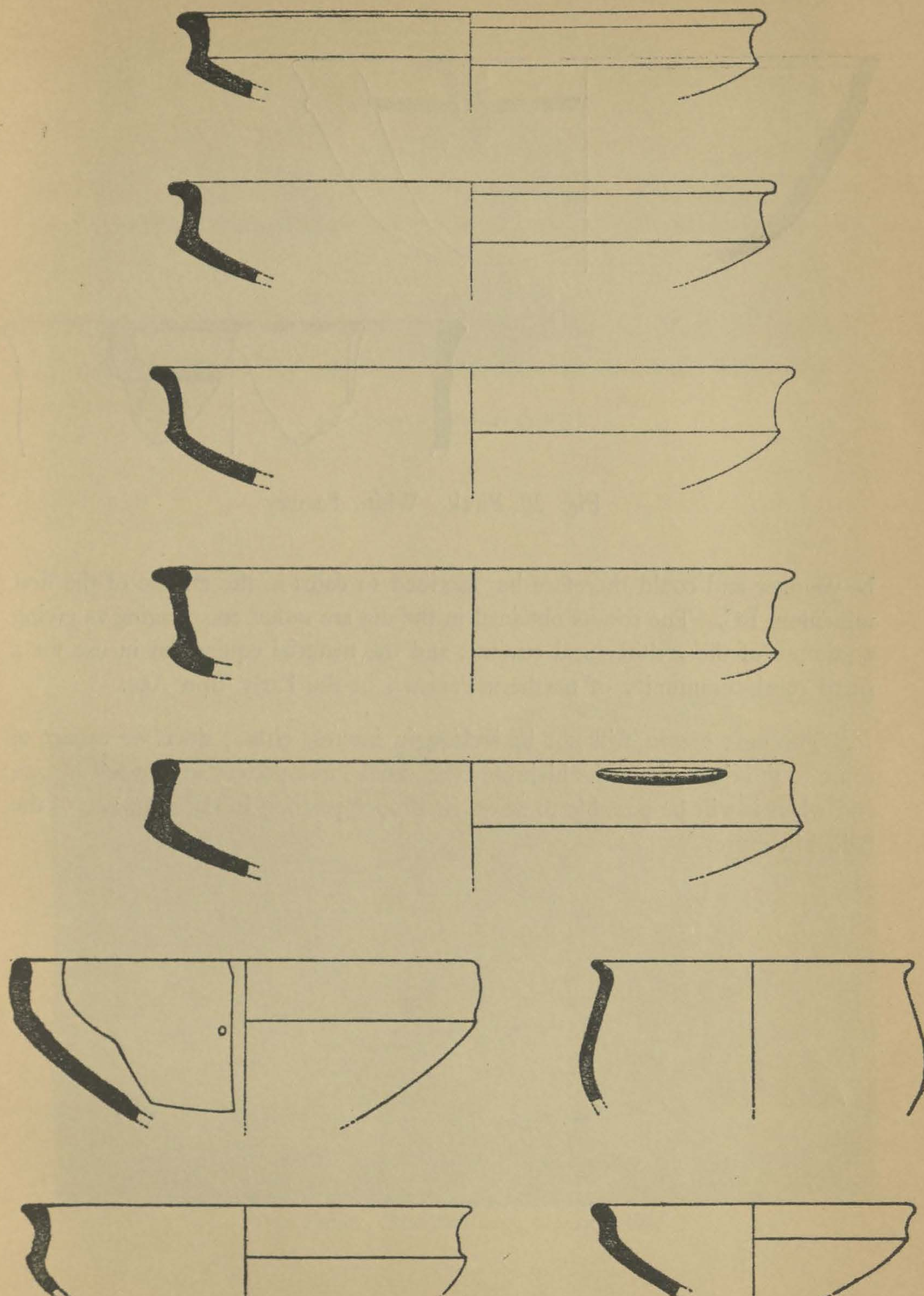


Fig. 19. Pirak. Black Pottery

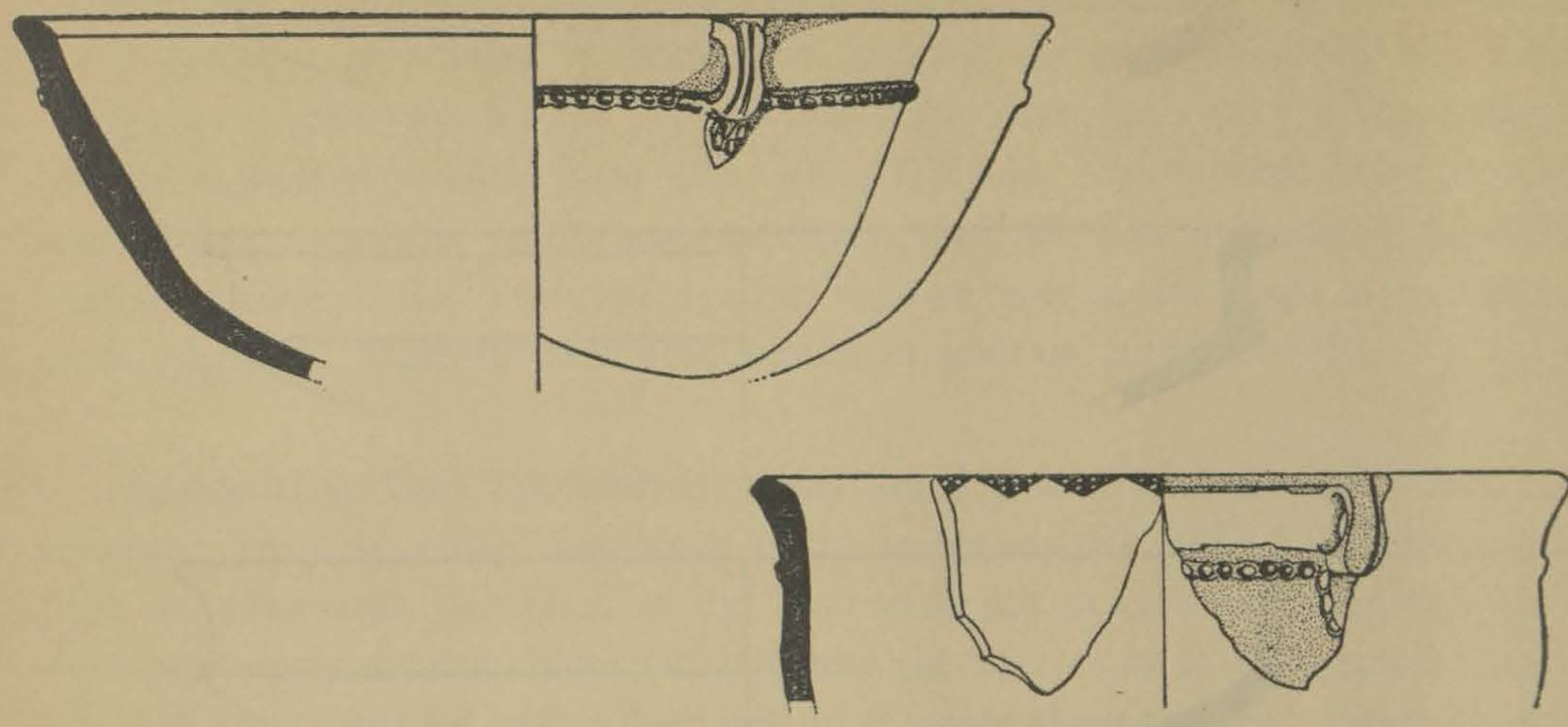
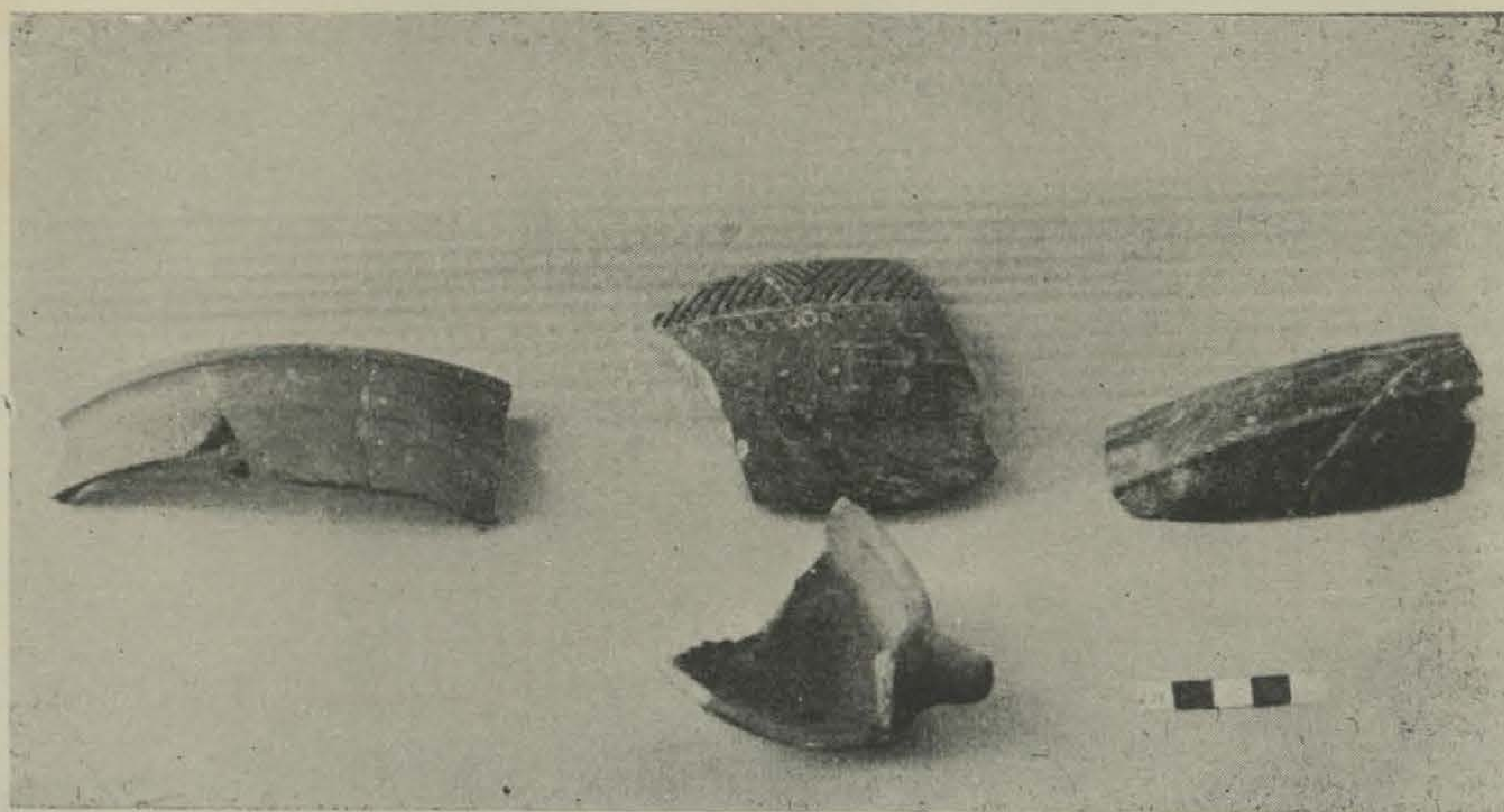


Fig. 20. Pirak. White Pottery

be younger and could therefore be ascribed to dates in the middle of the first millenium BC. The results obtained in the dig are rather encouraging as giving a glimpse of the architectural customs and the material equipment in use for a small rural community of northern Pakistan in the Early Iron Age.

The next season will not be lacking in interest either, since we expect to come to the time where the bichrome decorated Pirak pottery was in full bloom, and when it will be possible to assess its proper position in the sequence of the Baluchi cultures.



a. Pirak. Black pottery



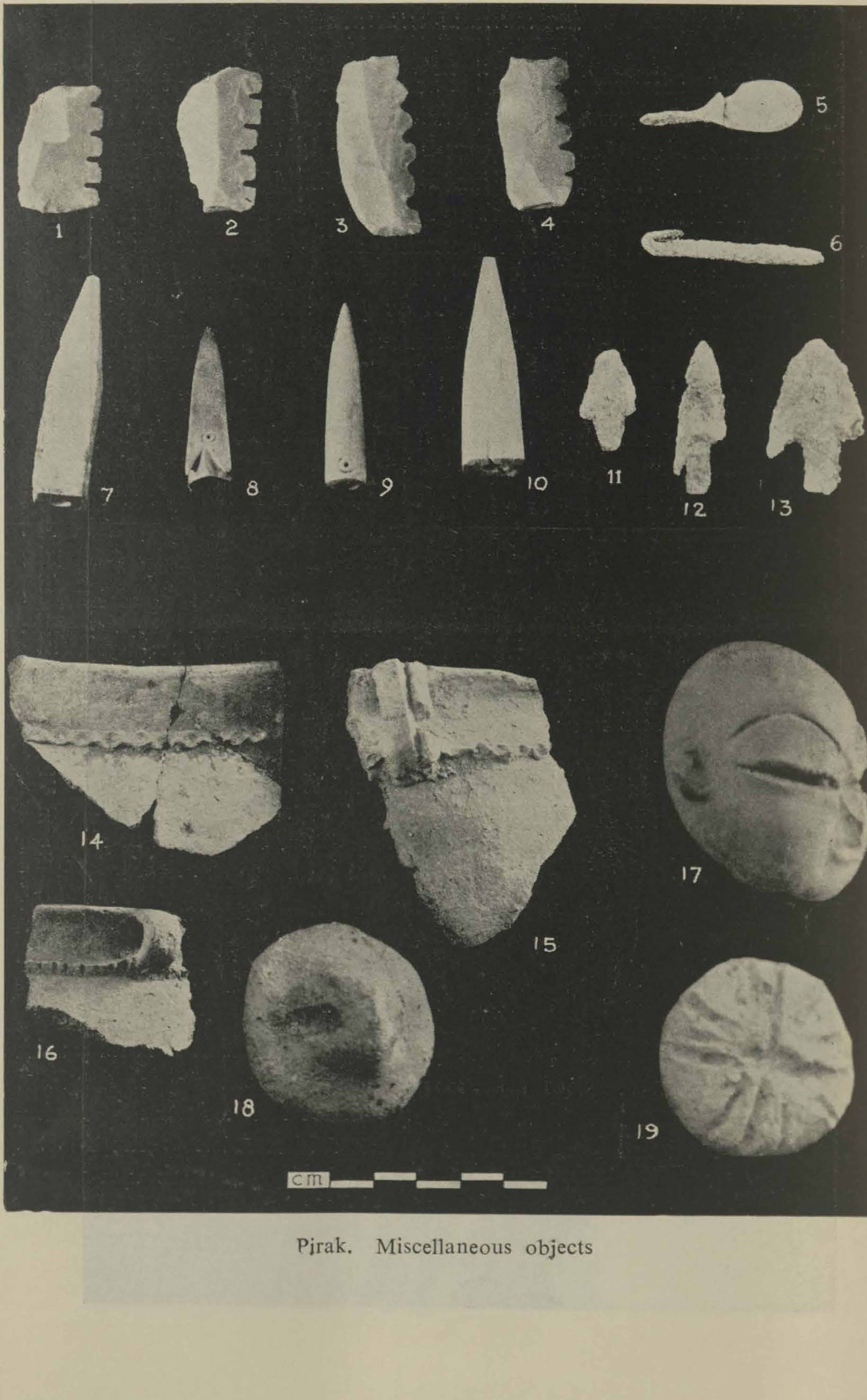
b. Pirak. The Platform, southern side



Pirak. Room VI with niches, seen from North



Pirak. Room VI with buttress outside, seen from south



Pirak. Miscellaneous objects

PROBLEMS OF CONSERVATION OF ANCIENT MONUMENTS IN EAST PAKISTAN

by

Nazimuddin Ahmed

[Plates XXXIV-XXXVI]

With Independence in 1947, a total area of 55,126 sq. miles of land came under East Pakistan with a 1700 mile long boundary line. This exceptionally long and almost uncontrolable boundary line, drawn most arbitrarily, paid no heed to natural or economic factors of the country and caused immense disruption to the communication, especially in the initial years of Pakistan.

Almost the entire province of East Pakistan is monotonously flat and in a popular sense, deltaic, where the general pattern of alluvial and detrital plains is criss-crossed by countless rivers, streams and their tributaries fringed only on the south-east by the older rock of the surrounding hills of Chittagong. In fact the area of the old Province of Bengal including the Surma Valley is the largest delta in the world.

One of the most devastating elements in this enormous and complicated hydrographic system of our delta which accounts for the total extinction of a large number of ancient monuments, is the constant fluctuation of courses of these great rivers and their distributaries. The cardinal factor in the history of the delta has been, indeed, the constant eastward shift of the Ganges water (as also the Teesta) from a main outlet along the western margin—the Bhagirathi-Hoogli,—to the present course, the Padma-Meghna with such streams as the Ichamati, Mathabhanga, Gorai, etc., representing intermediate positions of the most important channel. The obvious result is the desiccation of the western part of the old province, marked by numerous silted or stagnant 'bils' or lagoons—the *disjecta membra* of dead rivers, and the Active East, with its secondary consequences,—the changing pattern of land formation. While the tract of land to the north between the Ganges and the Brahmaputra—Jamuna is intersected

by a labyrinth of old river courses and is liable to disastarous flood, especially along the Teesta which is an exceptionally violent stream. In the heart of this large tract lies the *Barind* a large terrace of older quasi-lateritic alluvium. This comparatively highland tract still carries mush scrub and degraded forest and sparse population. But, by and large the northern regions of East Pakistan now present a uniform desolate panorama. The former affluence of the area has been rapidly transformed into relative aridity within hundred years. This has resulted largely from the silting up of major rivers and their distributaries as their headwaters have lost their sources by chocking or shifting of that river, and partly caused by substantial reduction in rainfall precipitation. The focus of political power and prosperity of the decadent north has now been taken over by the active and affluent south and east of the Delta.

The rivers in their downward course carry, annually, an enormous volume of fertilizing silt and water and the lateral wanderings of individual streams meandering across the flood plain, swings to and fro, on a vast scale with the result that new *char* (islets) land are constantly emerging from the womb of these shifting rivers and settled plains are gradually yielding to the turbulant scouring of these rivers. With the disappearance of these settled plain land habitations, a large number of noble monuments of Bengal have also been completely obliterated. Sripur township (the capital of Kedar Roy, one of the *Bara Bhuiyans*) near Dacca, part of Sonargaon and Rajbari in Faridpur among numerous other prosperous ancient settlements have thus been engulfed by the Dhakesvari, Meghna and Padma rivers within human memories. In the further south, the transverse channels and numerous creeks between the distributaries are largely kept open by tidal flushing and thereby best developed towards the seaface which keeps these deltas preserved.

THE MONSOON AND ITS AFTERMATH:

The monsoon in Bengal roughly lasts from June to September. The rains commence in East Pakistan roughly on 15th June and by July spreads over nearly all the gangetic plain advancing on a broad turbulant front, aptly compared to an estuarine bore. The average preciptitation in East Pakistan is 80 inches, excluding the Sylhet funnel between the Shillong Plateau and the Tippera Lushai Hills, where the average fall is c.150 inches. This usual precipitation is accompanied by violent cyclonic disturbances, the 'Nor-wester' in March and April with frequently heavy rain or hail-storms. On occasion these cyclonic storms are catastrophic, particuarly when they coincide with the high spring tide in the funnel shaped Meghna estuary. The damage caused by them to the human life, property and buildings, especially near the sea coast districts is often colossal.

The lower part of the Meghna-Surma embayment is perhaps the most amphibious part of East Pakistan during the rainy season. These tracts are flooded to a depth of 8 to 15 feet and homesteads are built on earth mounds 15 to 20 feet high. O'Malley vividly describes these regions during the rains in the following words, "The water is green with jute.... In the height of the inundation no land is to be seen and all travelling has to be done by boat. To say that travelling has to be done by boat gives, however, but an inadequate idea... Half a dozen huts are clustered together on a hillock a few yards square, and the inhabitants cannot proceed beyond that hillock, whether to visit their neighbours or their fields, to go to market or to school, without wading, swimming, or travelling in or on something that can float, including circular earthen-ware pipkins, more difficult of navigation than a coracle". (*Bengal, Bihar, and Orisa Sikkim.*)

Even when the rainy season is over, its aftermath continues which is no less pernicious to our monuments—especially in the southern districts. With the secession of the flood the rain water from the country-side enters into the streams and numerous low lying basins or ponds, isolated stagnant pools—a breeding ground of mosquitoes, and stand often against the monuments walls while the low lying swampy ground yet remains deeply saturated with fugitive flood water, all due to absence of proper drainage in many places. This was and still to a large extent is, precisely the picture at Sonakanda Fort. Hajiganj Fort, Idrakpur Fort (in and around Dacca), Masjidbari (Bakerganj) Mosque etc. Thus virtually for about 6 months in a year the foundation walls of these monuments suffer from water-logging which, for many years has already weakened the structural stability of these buildings. In addition to this, the effect of salinity from the sub-soil dampness to these monuments is not negligible. The brick work in the foundations and lower part of the walls is easily corroded by this highly destructive effect. The menace is not easy to counteract. In such cases earth-work sufficiently high above the flood water table all around the structure with an even green grass-covered belt with outward slope greatly improves the condition of the monument, provided its drainage from inside is maintained satisfactorily. (Pl. XXXV-b).

VEGETATION MENACE:

During the seasonal aggressive monsoon the growth of degraded forest wealth of this region, grows astonishingly. The rank vegetation glavanizes into surprising vitality. Once an ancient monument falls into neglect and disrepair, it is thickly mantled beneath rank vegetation; especially damaging is the young banian. Its vigorous and expanding roots penetrate deep into each crevice of the building and hold it in its fatal grasp like the tentacles of an octopus, until it is

split into fragments. The other less damaging scrub bushes bury the monuments quickly under their foliage but the effect of their destruction is comparatively less. However, as a result of injury from vegetation many unprotected monuments have disappeared completely.

The effect of the excessive rain and its resultant luxurious vegetation growth, is particularly noteworthy on the pre-Muslim monuments. The normal building materials in East Pakistan from remote antiquity, remained the same—brick manufactured in abundance from its rich alluvial soil. Although certain quantity of stone was also used in ancient building—especially during the pre-Muslim period, it always remained insignificant, for these expensive materials had to be quarried near Rajmahal and conveyed down the streams on huge country barges. (Pls. XXXIV, XXXV-a, XXXVI-b).

Almost without exception these pre-Muslim buildings were built with bricks laid in mud-mortar—a highly impermanent binding material that is least resistive to excessive rain. As soon as the outer plaster coating, which normally was also mud, puddled with a certain proportion of cowdung and husk—is washed down the edifice, it quickly crumbles to pieces and eventually the vegetation takes charge. It is indeed a great problem to preserve these pre-Muslim monuments in their original character. Several experiments in Paharpur, Mainamati, Govidna Bhita, Gokul Medh etc., have been carried out but none appears thoroughly satisfactory. Repair with mud-mortar without protective coating, particularly where the height of walls exceeds 3 feet has been met with failure after only one season's incessant rain; while repairing them with lime and surkhi mortar in 2:1 proportion with a protective coating on top only to obtain a water-tight effect though effective, it materially changes the original character of the construction and hence is less desirable. Experiments are now being introduced gradually to built up the core of the walls above a height of 3-4 feet, using lime and surki or cement and faced with dressed brick-work laid in mud while the top is attended with beaten earth under a loose sprinkling of gravel and earth which encourage growth of grass only. These carpeting grass roots hold the top surface and act as a protective covering against rain water percolation. In attending these walls, of course, care is taken to leave the tops broken into an undulating height. (Pl. XXXVI-a).

OCCUPATION OF THE MONUMENTS BY OTHER AGENCIES:

In spite of the slowly awakening consciousness among people of a sense of pride in their national archaeological heritage, much yet remains to be desired. The magnitude of destruction by human hands, continues and incidentally, the

clandestine traffic in antiquities across the border by private individual is, infact, increasing. The existing regulations to check this are inadequate and in any case the effectiveness of execution unfortunately falls far short of expectation. Instances are not lacking where brick robbing and treasure-hunting by dismantling monuments go on unchecked. One of the notable instance is the spoilation of archaeological remains at Mainamati-Lalami Range, Comilla. It was the headquarters of the British 14th Army in 1943-44 when military buildings were erected at various points of the 11 mile long ridge—all richly dotted with 7th-12th century Buddhist remains. The contractors accidentally digging into the ridge discovered an inexhaustible supply of ancient bricks which they systematically proceeded to dig out and re-use in the new structures. Among these bricks were sculptured plaques, many tiny Buddhist bronze images and other objects which eventually attracted attention of archaeologists and were partially saved.

Another factor of grave importance directly related to the problem is the alarming growth of teeming population and its consequent pressure on extremely limited land. The average density of population in the province is 922 per sq. mile—one of the highest in the world and perhaps unequalled elsewhere except Java and parts of China. The Munshiganj sub-Division of the Dacca district has a density of 2500 and the highest rural density in the world recorded in 1961 census from Lohajung thana in the same district is over 3000 persons per sq. mile. As a result the fallow infertile lands and mounds, which in most cases contain buried ancient habitation are every day reclaimed under the plough for food production or new building activities.

But one of the greatest hindrance to proper preservation of our magnificent monuments, is their continued occupation by the provincial Government authorities and other private agencies for various purposes. An instance in point is the picturesque river fort at Munshiganj near Dacca on the dried up bank of Ichamati. Built probably by Mir Jumla in about 1660 A.D. as one of many Mughal fortified posts near Dacca, it was intended to guard the river approach to the capital from the marauding Magh and Portuguese pirates who infested the lower waters of the delta. It is a protected monument but at present occupied by the sub-jail and the S.D.O's quarters of the Provincial Government. As a result the Department of Archaeology only repair the defence walls of the fort. In spite of continuous efforts it has not so far been possible to release the fort and its premise. The jail establishment has its security measures and hence the movement of the public is restricted within it. In addition to it they constructed several temporary sheds and semi-permanent ugly structures for various purposes besides building a high modern jail wall along the inner line of defence walls occupying about half

of the perimeter inside. The scum, filthy drainage, garbage dumps heaped up indescriminately inside and the stagnant drainage water standing against the defence wall, are great hazards to the noble monument.

Encroachment by private semi-religious bodies is also glaring on occasion. As instances it may be mentioned that the protected Bara Katra and Chota Katra are now heavily occupied by numerous vagabonds, unauthorized refugees, beggars and a Madrasah. Persistent efforts were made from the Department to acquire and get the monuments and their premise free from such encroachments by purchase but without any success so far. Meanwhile the continued occupation of the monument by such heterogenous elements has caused so many additions, alterations and demolition to suit their purpose, that eventually it is feared that the whole area, with the monument will turn into a disorganized filthy slum with the noble monuments ruined, instead of developing it into a beautiful tourist attraction with the preserved monument enclosed within a green belt of grassy lawn and an attractive garden inside.

There are other isolated instances of people's fanaticism for the development and extension of religious or semi-religious buildings—both old and new, often due to ignorance. A majority of the ancient mosques and tombs have suffered in this way. There are even instances where tombs have been converted into a living mosque by effecting extensive alterations and repair in spite of our best persuations and citing documented evidence to the contrary or demolishing the monument completely (Dera Begum's Tomb near Satmasjid, Dacca and Baragoali Mosque at Daudkandi are instances in point).

COMMUNICATION AND TRANSPORT:

Although communications and transport facilities have improved since Independence yet these remain a great problem in this region. By rail it still takes about 18 hours to cover a circuitious distance of 260 miles from Dacca to Rajshahi the headquarters of North Bengal and the journey must be broken by ferry at the crossing of the Jamuna. The nearest railway station from the Gaur group of important pre-Mughal Islamic monuments including the splendid Chota Sona Mosque, is 24 miles approachable only by bullock cart over a miserably maintained D.B. kuchha road. There is not an inch of railway line in the whole districts of Bakerganj and Patuakhali, and all the journeys have to be done by waterways or walking and waterway services are yet to develop to a satisfactory standard. Many of the journeys to inspect the monuments are yet undertaken by country boat, often at a considerable risk of personal safety from roving priates. The monuments are usually located at out-of-the-way

places where approach is difficult. The men and materials, required to repair them have to be conveyed to the spot at a very high cost and with much difficulty from the nearest town.

All these problems place great difficulties in the preservation of monuments in East Pakistan in the proper sense and added to them is the usual inadequate annual allocation to the Department although encouragingly enough it has been enhanced in recent years.

CONSERVATION OF ANCIENT MONUMENTS IN WEST PAKISTAN - 1969 - 71 *

[Plates XXXVII - XLV and Fig. 21]

THE primary responsibility of the West Pakistan Circle of the Department of Archaeology is to look after the protected historical monuments and archaeological mounds situated in West Pakistan. This includes measures to maintain them in a good state of preservation, to undertake systematic survey and to locate and identify all those monuments and sites which still await discovery. Accordingly, the Circle undertakes repairs and restoration of these monuments every year as a regular process. During the years under report, the Circle selected priorities of work to be carried out at various monuments and prepared a detailed programme. It is gratifying to note that the Circle maintained steady progress in various spheres of its activities. A short account of the more important works done during these years is given below:—

I. Lahore Fort (Pls. XXXVII - XXXVIII)

Among the works of conservation carried out during these years, the Lahore Fort has received our major attention. The works executed here are the consolidation of the already decayed masonry of the inner fortification wall; restoration of the inner arch of the main gate of Shah Jahan; the restoration of the eastern part of the Raushnai Gate; replacement of the ceiling of Mai Jindan's Haveli; and the lay-out and improvement of the open areas lying beside the main fortification wall.

*Based on the notes supplied of the Superintendent of Archaeology, West Pakistan Circle.

1. The inner fortification wall had suffered badly from the ravages of time. It had bulged out at many points and its brick work had decayed considerably due to salt-petre. During the year 1957 to 1960, extensive repairs were carried out to the north-east, east and south-east portions. In the period under review, the damaged patches on the northern and the south-eastern sides were repaired, taking out the damaged bricks and replacing with new lakhauri bricks in cement mortar treating the outer joints with fine kankar lime to match the original work Several compartments in the servant gallery attached to the Hathi Paer, were also repaired and plastered afresh in original fashion. Similarly the old wooden overhead bridge connecting the buildings beside the Alamgiri Gate with the main fort buildings, which had decayed dangerously, was replaced with a new one. The other task executed here was the restoration of the interior main arch of the Shahjahani Gateway where some cracks had developed in the masonry leaving the various voussoirs loose and, therefore, dangerous. The decayed red sand stone voussoirs were, therefore, replaced by new of original size.

The lower portion of the western tile mosaic wall of the Shah Burj had also suffered badly from the work of time. On the northern side of the Shah Jahani gate a small portion of about 150 s.ft. of the tile mosaic wall was restored with cut and dressed bricks.

2. Dalan-i-Sang-i-Surkh (Red sandstone building) otherwise called Mai Jindan's Haveli, is a double storey building. Three northern rooms of its ground floor are of the Mughal period and the entire upper storey, including the southern room of the ground floor which accommodated the staircase for upper storey, belong to the Sikh period. The roof of the Mughal period construction is supported on architecturally sound arches but the device adopted by the Sikhs for roof construction was clumsy and defective. The brick masonry roof of the above noted southern room and the walls above the upper storey had been supported on wooden *ballies* which had been fixed at a level about two feet below the level of the roof. During 1955 to 1963, the building was appropriately repaired keeping in view its original architectural features and subsequently converted into a museum called the New Gallery.

Some of the original wooden *ballies* which were found sound at the time of repair and had been kept in place, had, in the course of a few years, collapsed due to decay and disintegration. Serious cracks developed at a number of points in the roof which threatened imminent danger of its collapse. In order to ensure the stability of the structure, a thorough examination of the threatened roof was undertaken and on its findings an estimate for its repair prepared and approval of its execution obtained. It provided replacement of the wooden

ballies and beams by R.C.C. batons and beams and dismantling of the roof and its relaying in cement concrete, finished with chip flooring on top. It also included the renewal of the deodar wood ceilling following the original pattern below the R.C.C. rafters and beams.

3. The Raushnai Gate of the Old Fort, built during the Mughal period and located between the Badshahi moseque and the fort on the north of Hazuri Bagh, is one of the thirteen old gateways of Lahore. It was in a precarious condition and to arrest its decay, repair works were undertaken under a Special Repair Programme. The exterior facade in the north, extensively damaged by atmospheric action, was repaired, keeping in view the decorative panels, and plastered anew after raking out the old decayed plaster. The disintegrated staircases in the south-east, damaged walls and disintegrating brick work on the arches of several rooms were restored in original character. The cracks developed in the roof were attended with proper grouting. The shattered roof of two rooms was dismantled and re-constructed with 6" thick R.C.C. slabs. Above this, a layer of sweet earth and flat tile flooring in proper slope were also provided. The walls and merlons in the crowning towers were in highly dilapidated condition and these were also dismantled, re-erected and plastered afresh, matching the original elements. During the year 1969-70, restoration work in the five rooms located on the eastern side and the main gate was completed. All the window and door openings were provided with new panelled wooden leaves, while five windows in the northern and eastern sides were provided with cement concrete " jalies " stained in red similar to the original colour and design.

4. The vacant strip of land between the road and the fortification wall in the south had been in the administrative control of the Lahore Imporvement Trust but it was in poor state and afforded undesirable elements of the public to misuse it. The Trust, at our request, transferred it to the Department for proper development and maintenance. Under the phased programme, the area has been fenced off with barbed wire and provided with a green belt of grass. The work has been completed from the police gate to the Hazuri Bagh gate and thence to the south-east corner of the Badshahi mosque enclosure. Provision of angle-iron gates has also been made.

II. Samadh of Maharaja Ranjit Singh (Pl. XXXIX).

The projected inclined eave (Chajja) of the Samadh of Ranjit Singh is built partially of red sandstone and partially of bricks. Its parapet, were in a dilapidated condition and in particular the eave had collapsed at some points. The monument is in the control of the Auqaf Department, but they had no



Eastern wall of Khania Dighi Mosque at Gaar, Rajshahi - Disastors effect of Mank vegetation on monuments.



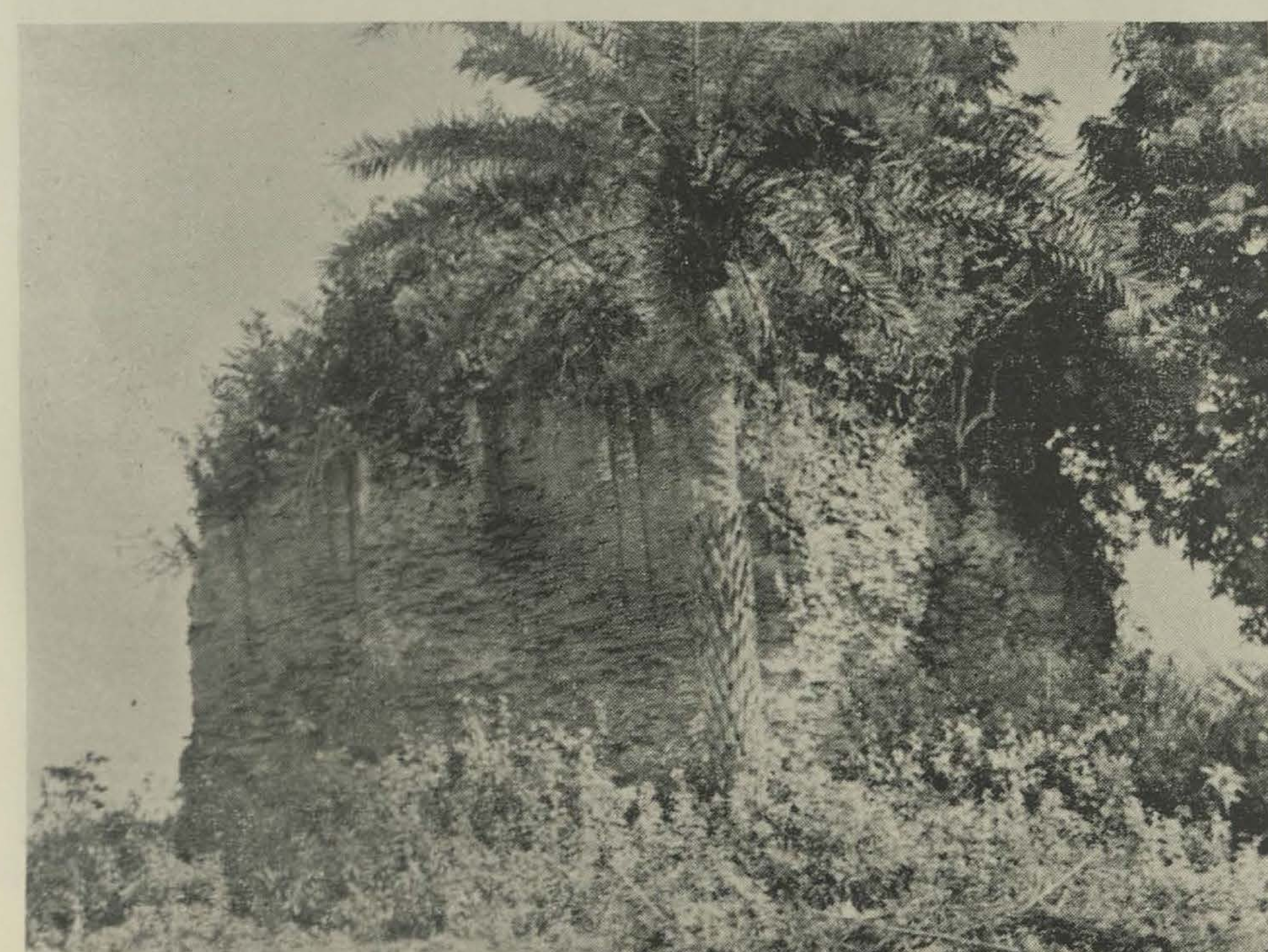
a. Raja Ram Roy Choudhary's Temple at Khalia, Faridpur-damage caused to the monument by Banian root.



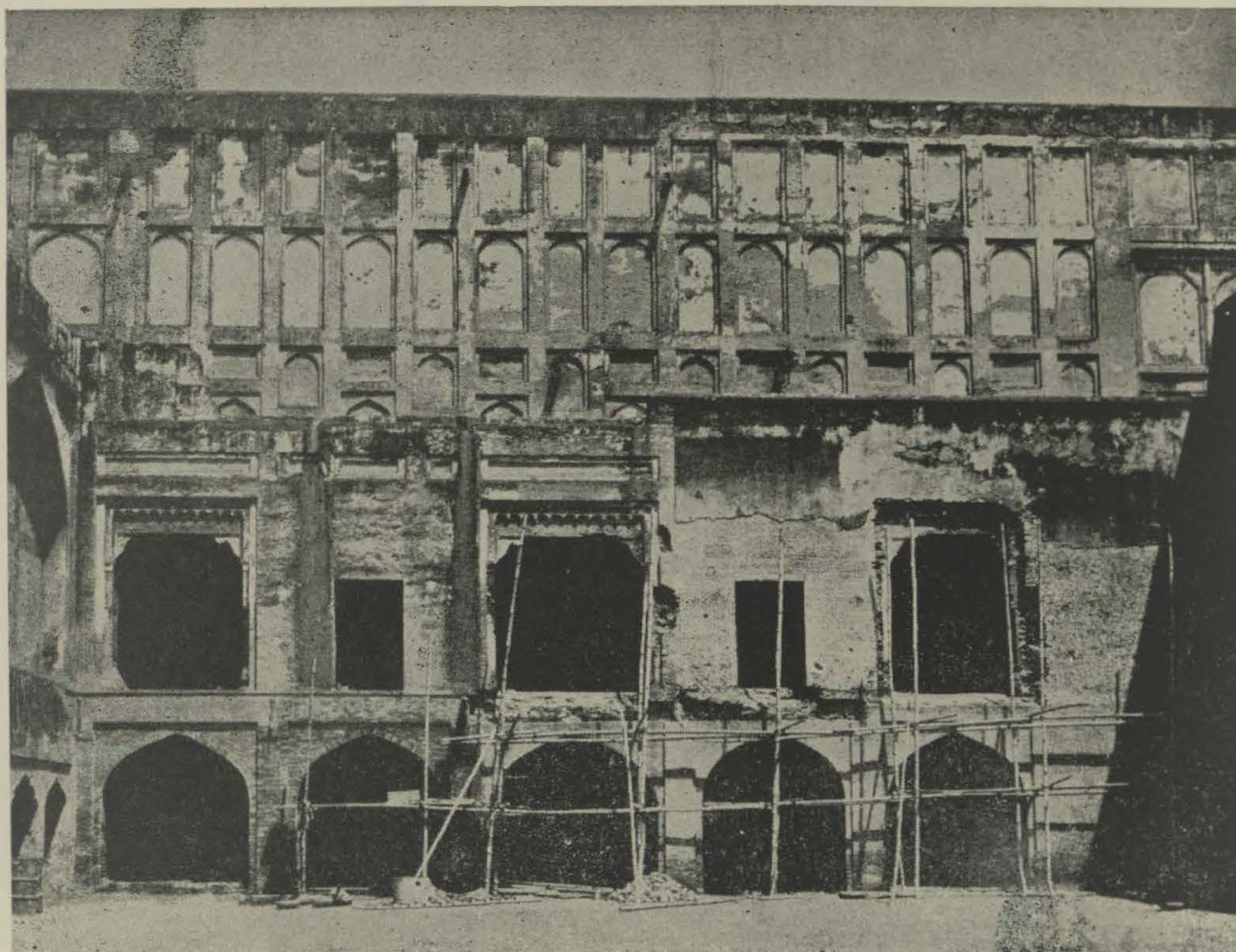
b. An instance of cyclone-desastation on Kasba Mosque, Barisal.



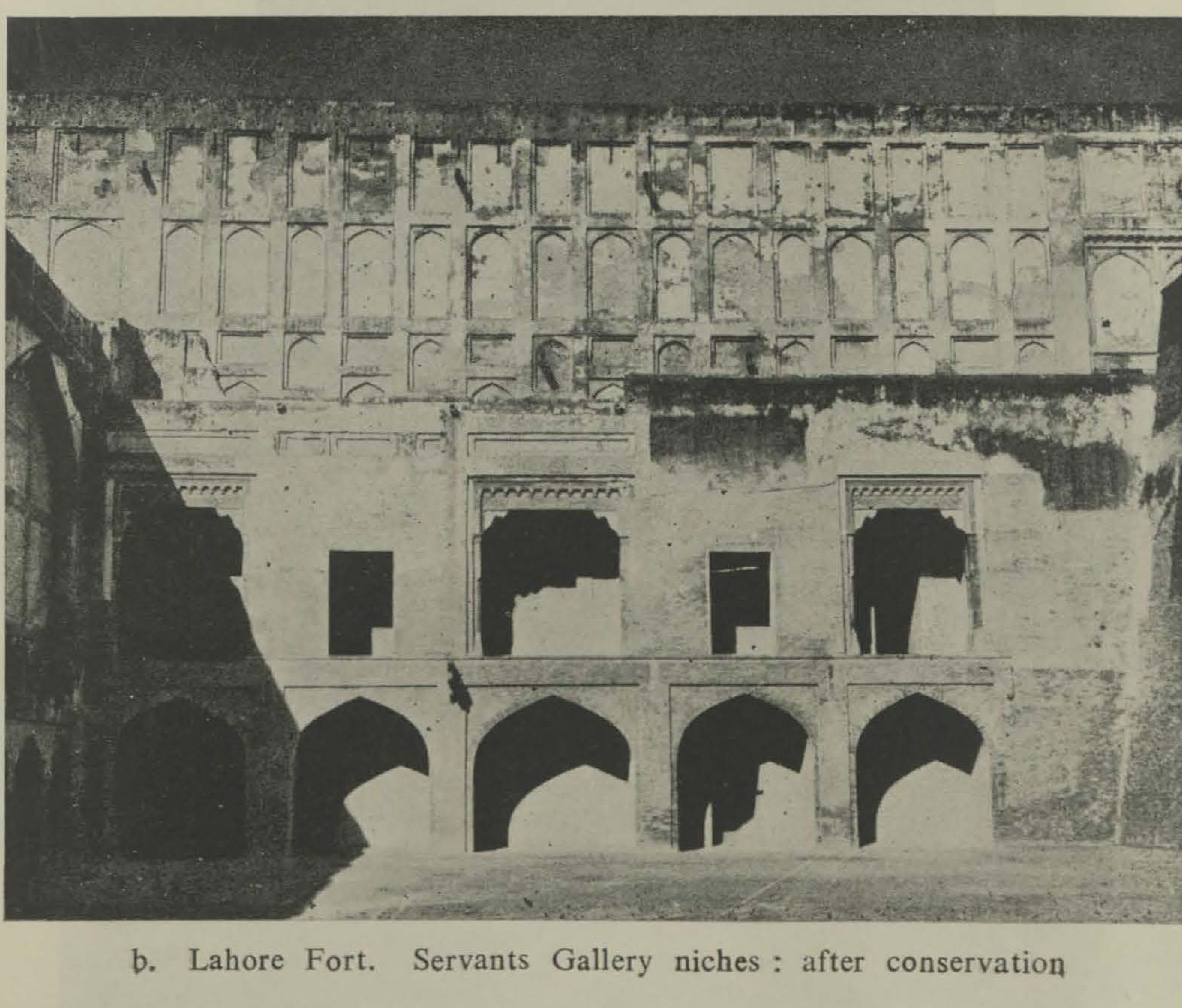
a. Leaning " Sarkar's Math " at Mahilara, Barisal result of water-logging.



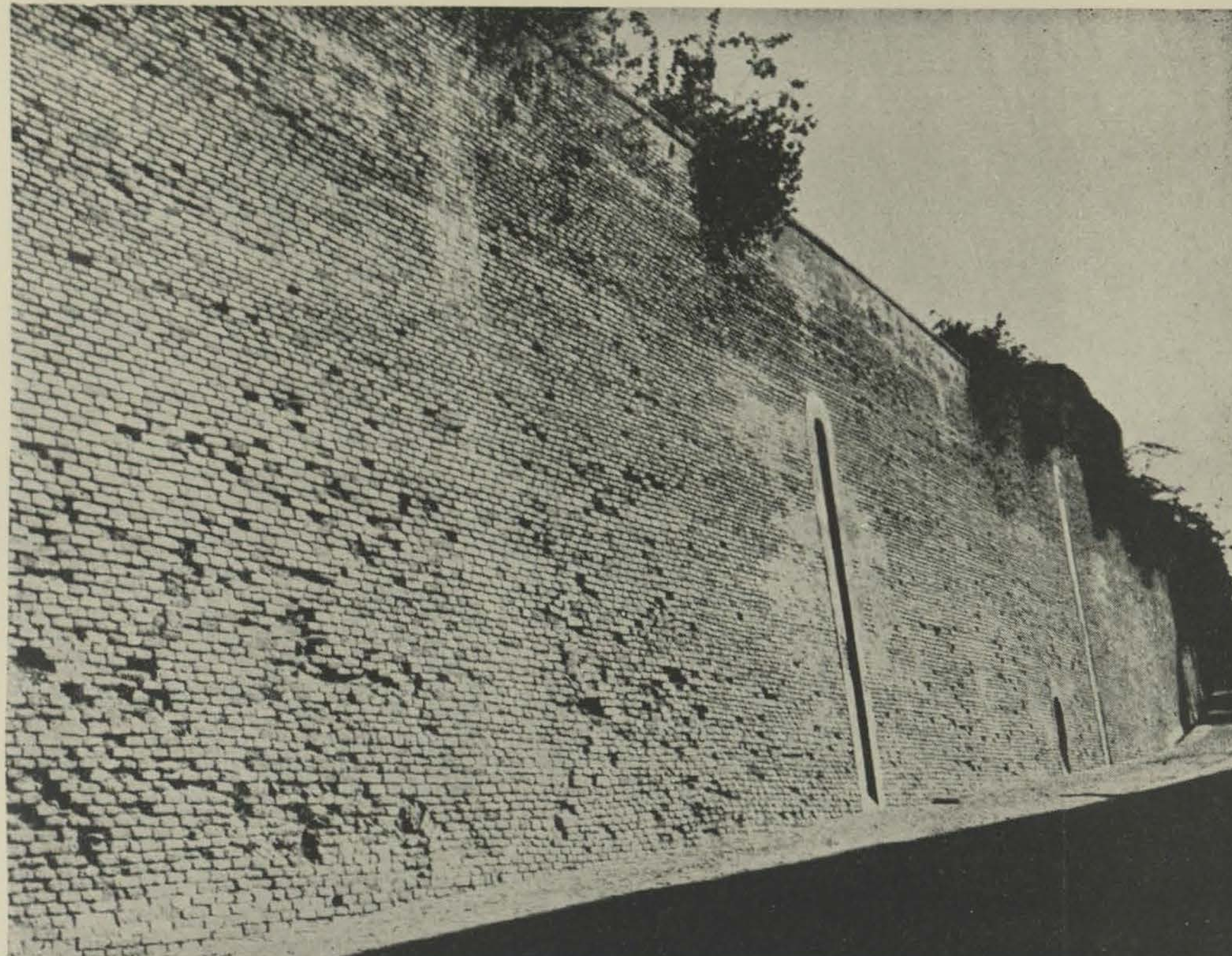
b. Dariya Sadadagar's Mosque at Baia Goalia, Comilla-thickly mantled under Mank vegetation. It has now been completly demolished by over-enthusiastic local muslims to be r eplaced by a grand Mosque.



a. Lahore Fort. Servants Gallery with niches : before conservation



b. Lahore Fort. Servants Gallery niches : after conservation



a. Lahore Fort. Inner fortification wall : before conservation



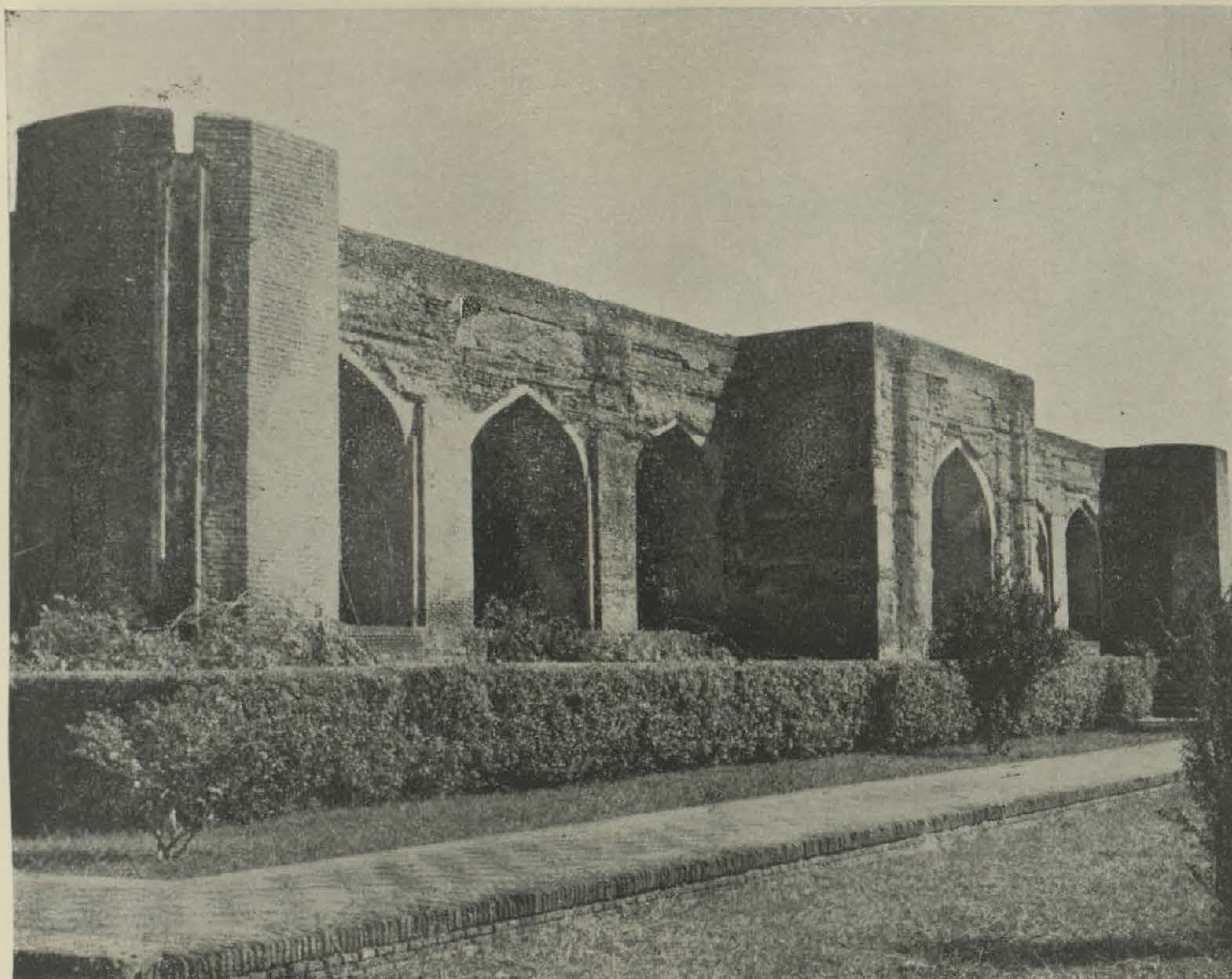
b. Lahore Fort. Inner fortification wall : after conservation



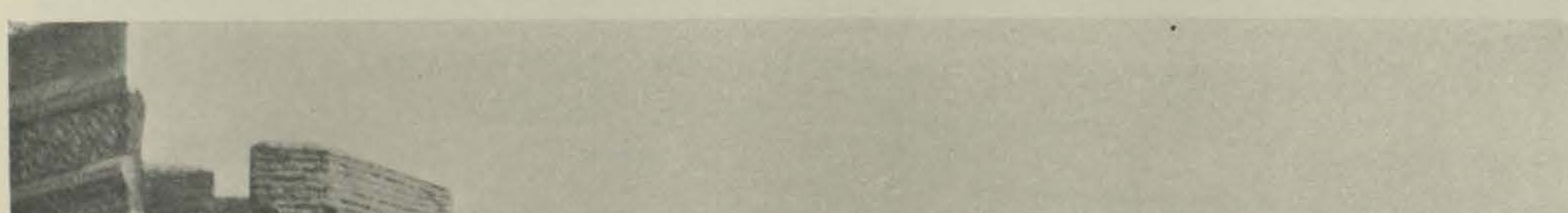
a. Ranjit Singh's Samadh, Lahore : Eave with frescoes: before conservation



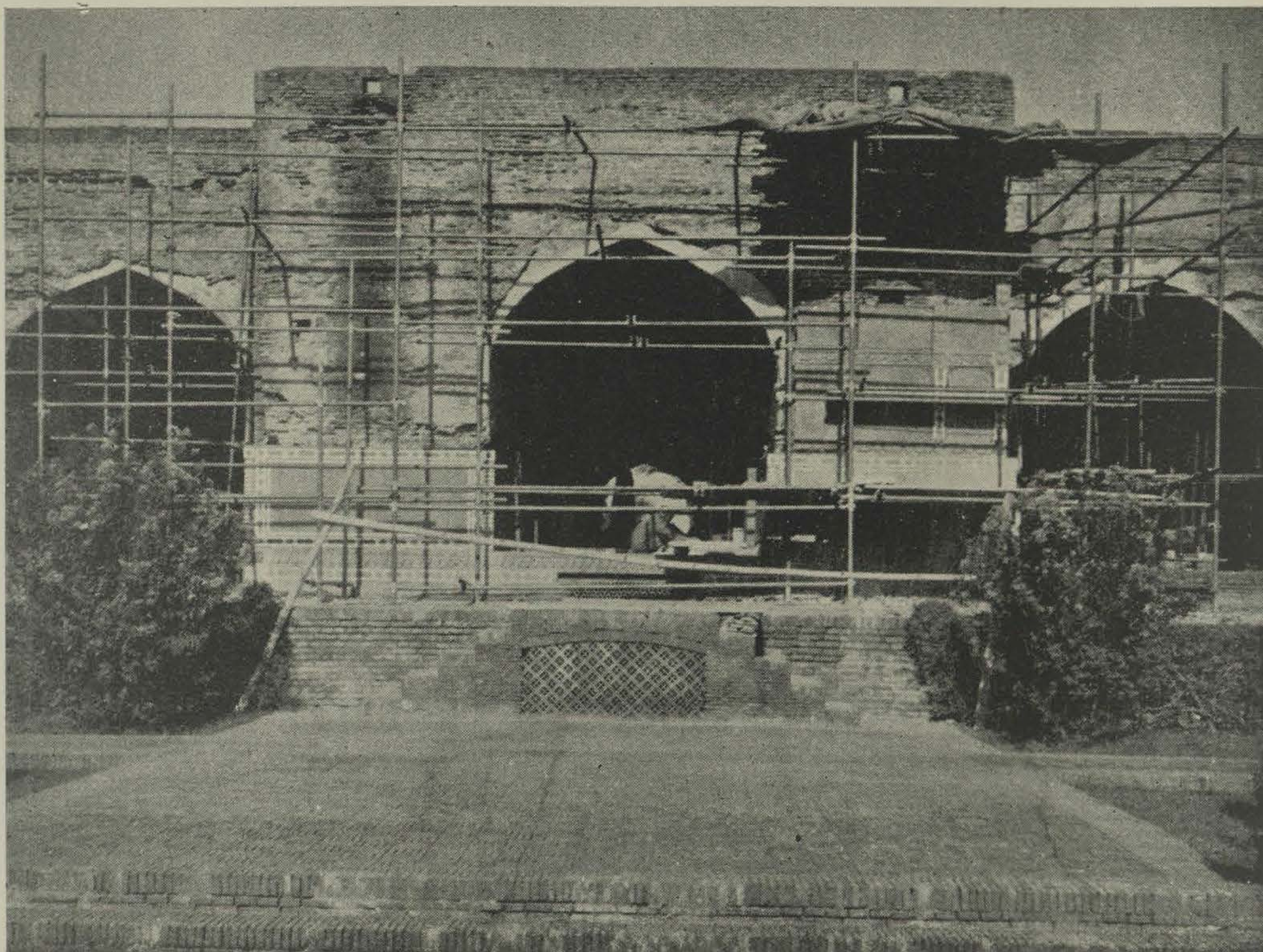
b. Ranjit Singh's Samadh, Lahore : Eave with frescoes : after conservation



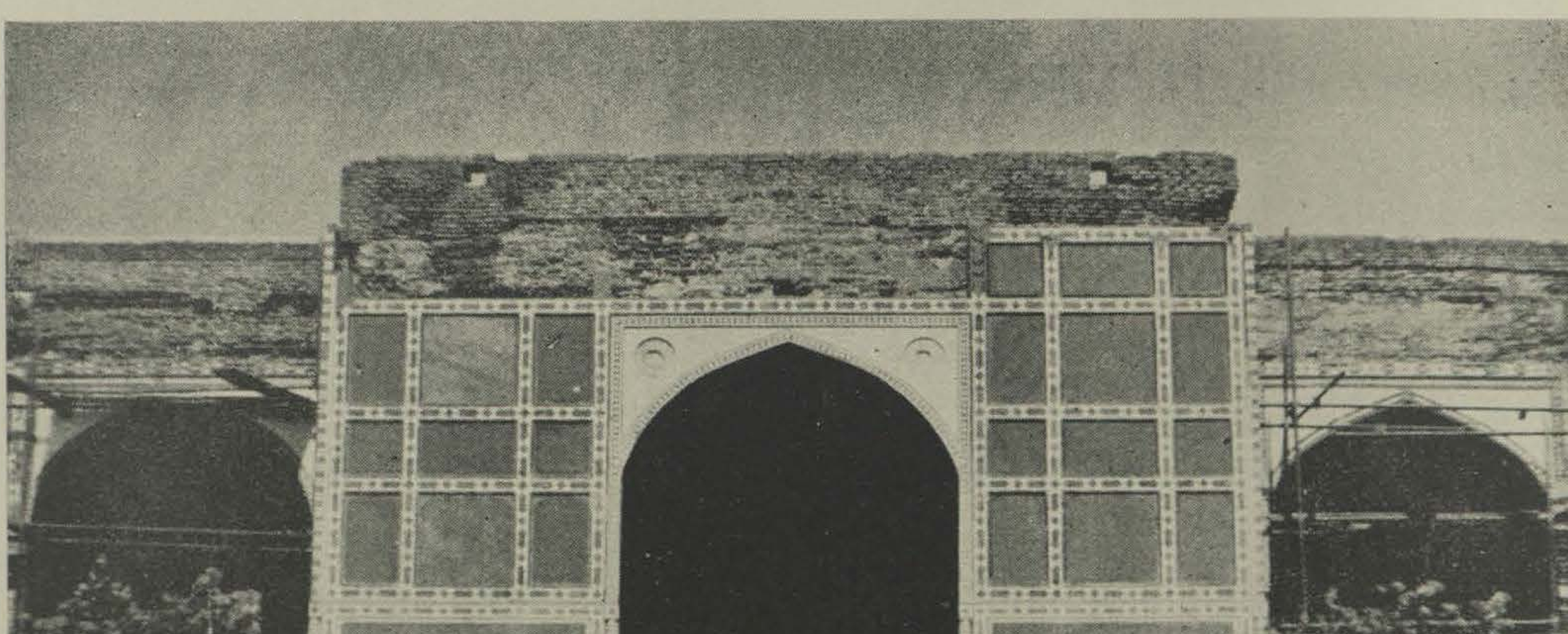
a. Nur Jahan's Tomb Lahore : before conservation



b. Nur Jahan's Tomb Lahore : after conservation



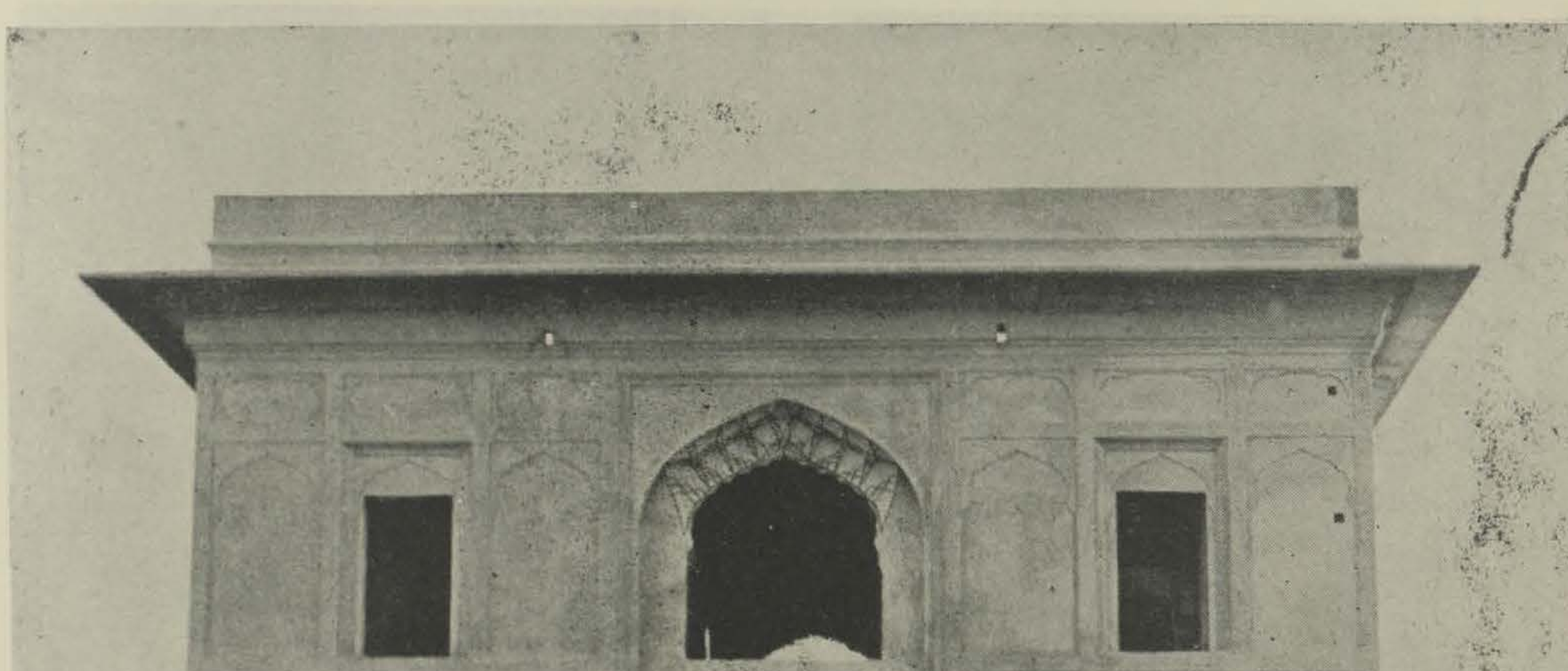
a. Nur Jahan's Tomb, Lahore : before conservation



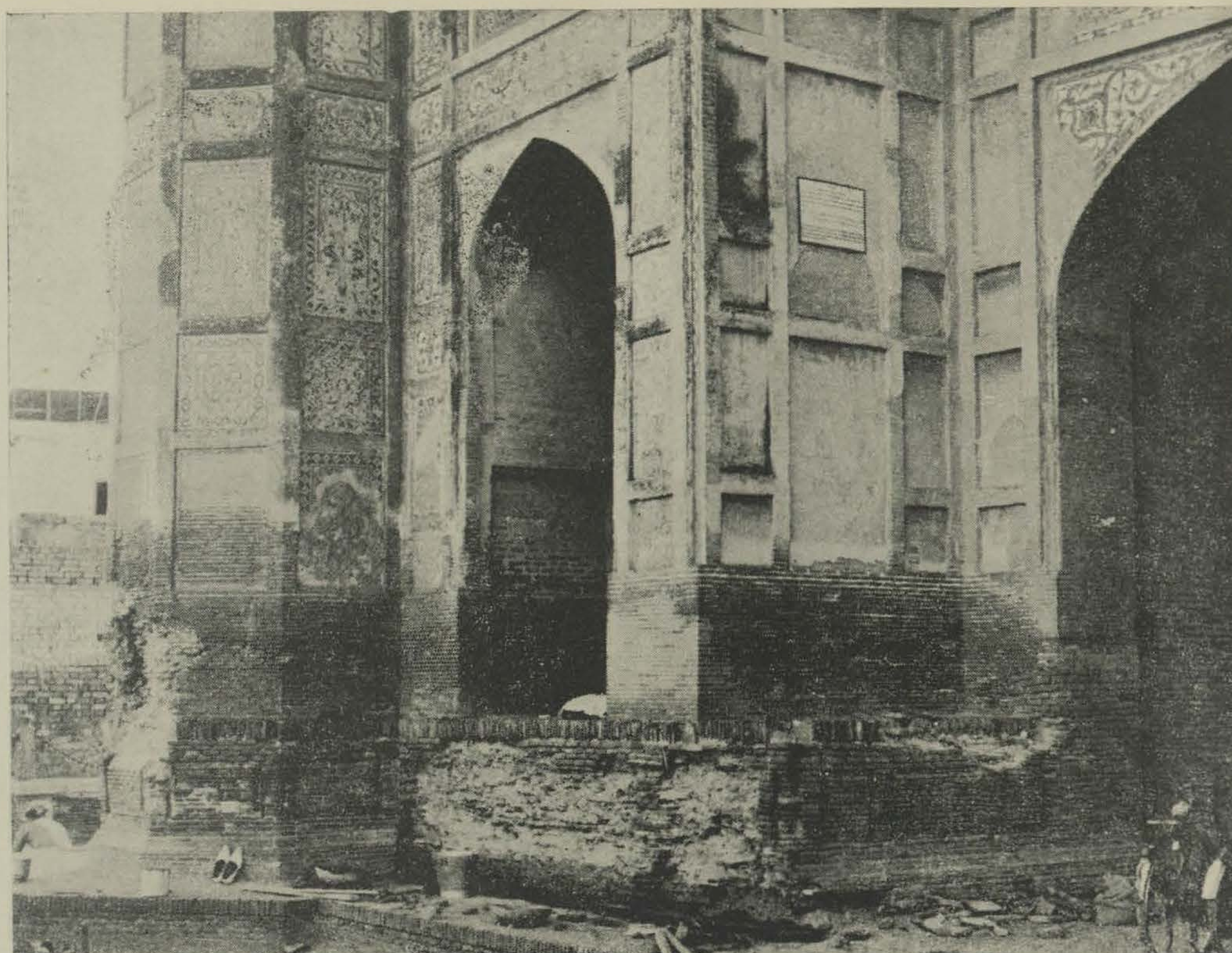
b. Nur Jahan's Tomb, Lahore : after conservation



a. Nadira Begum's Tomb, Lahore: before conservation.



b. Nadira Begum's Tomb, Lahore: after conservation.



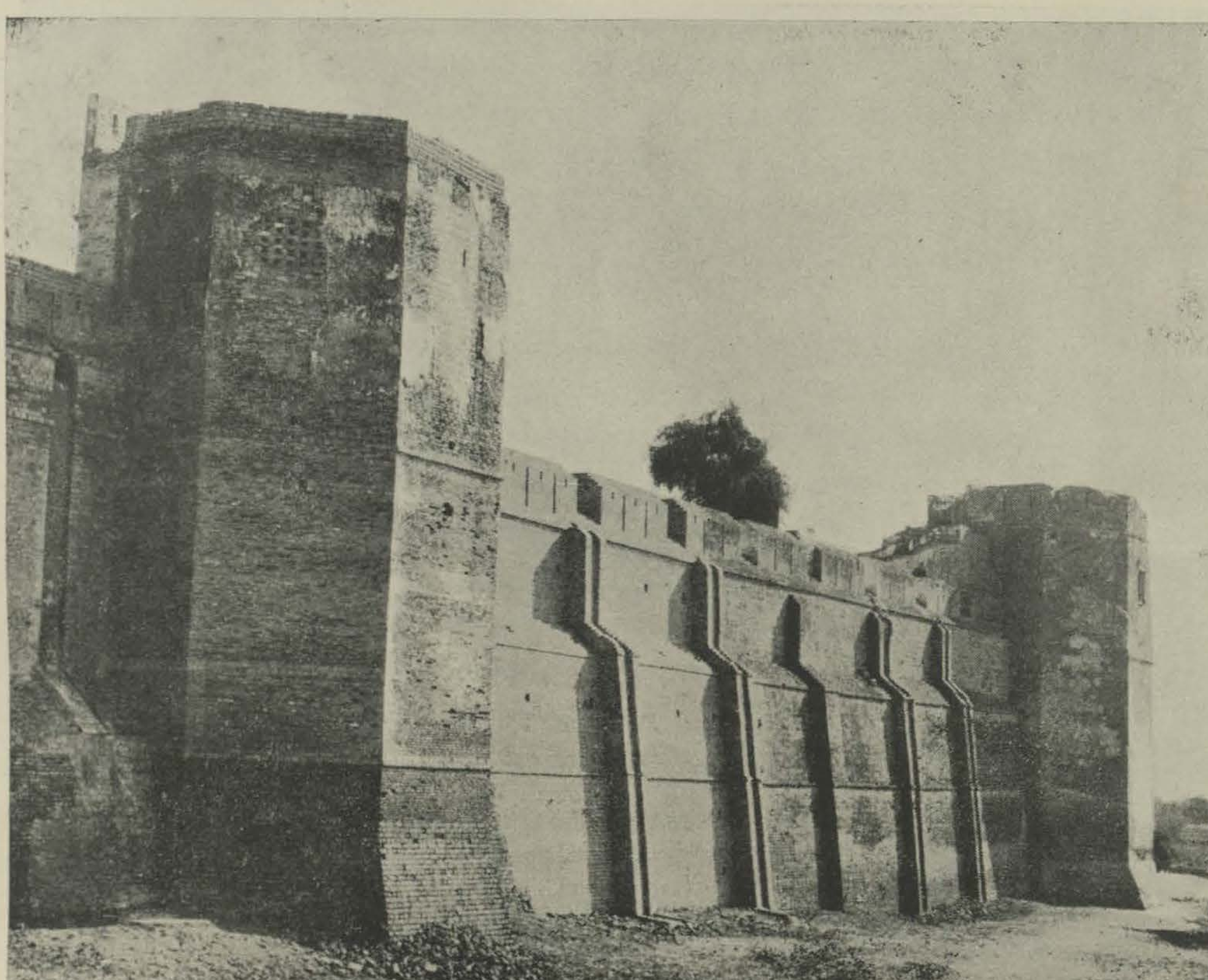
a. Chauburji Gateway, Lahore: before conservation.



b. Chauburji Gateway, Lahore: after conservation.

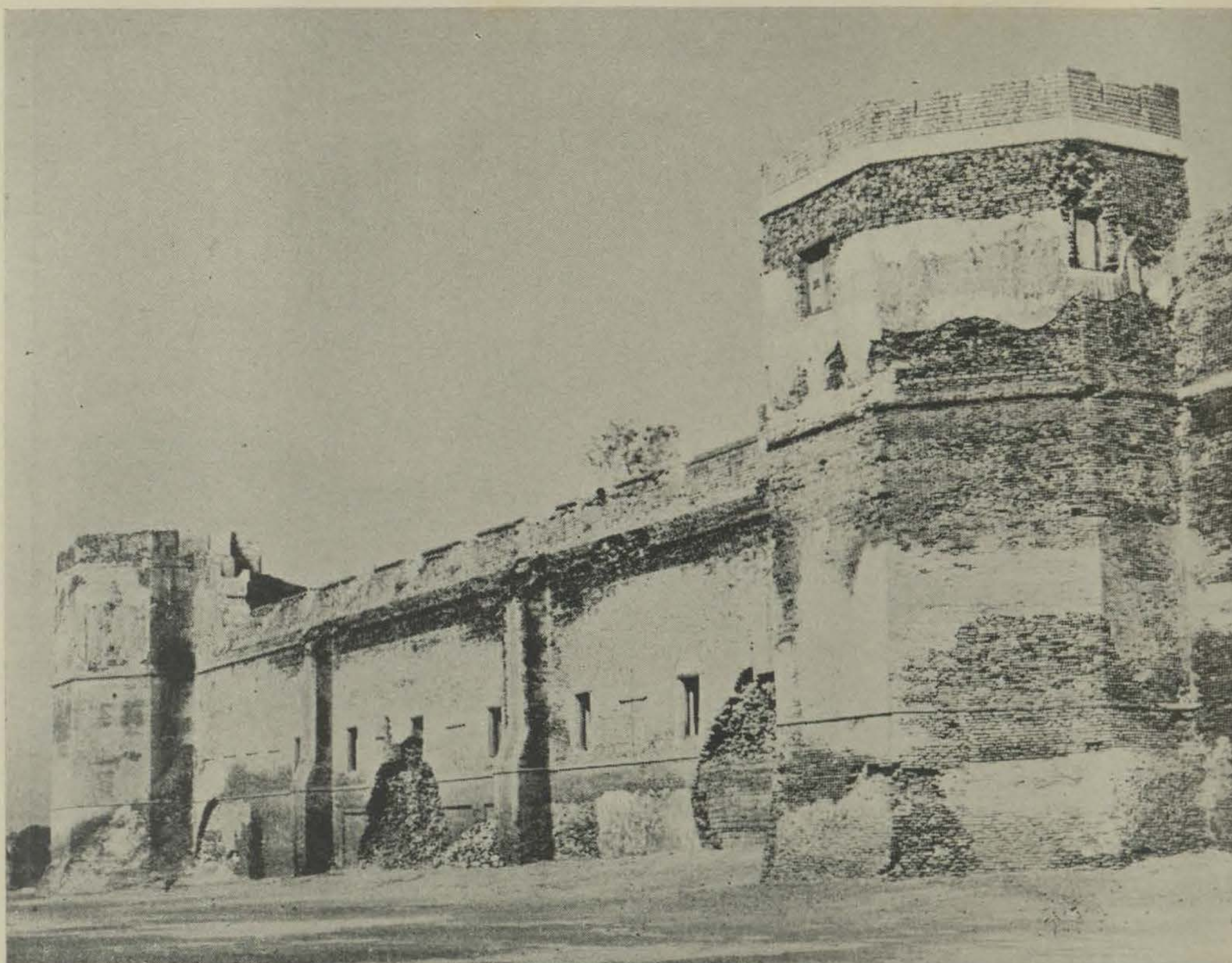


a. Shiekhupura Fort : Western fortification wall before conservation.

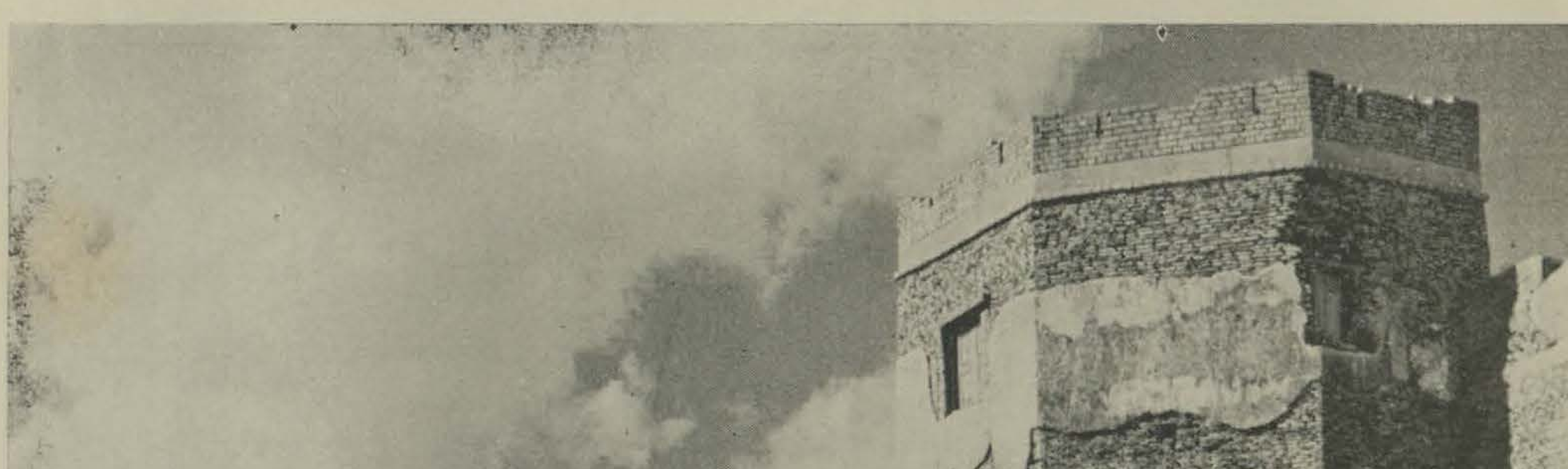


b. Sheikhupura Fort : Western fortification wall after conservation.

Plate XLV



a. Sheikhupura Fort : Southern fortification wall before conservation.



b. Sheikhupura Fort: Southern fortification wall after conservation.

technical staff to execute the restoration of the monument according to archaeological principles. The task was therefore entrusted to the Department. The portion still in good preservation has been left undisturbed and the missing or damaged parts in the east and south were restored with R.C.C. slabs. The plaster of its upper and lower sides was renewed with fine kankar lime with a mixture of 10% cement and the fresco painting of its lower side reproduced, following the original pattern and design. The brick moulding running above and below was missing at places and new mouldings were prepared and set in the appropriate vacant space in the north and south side. Petty and urgent repairs were also carried out.

III. Restoration of the Perimeter Wall of Emperor Jahangir's Tomb at Shahdara

The original perimeter wall in the east and south was partially washed away by the Ravi river when in flood. This part was fenced off before Independence by barbed wire fencing but this was totally removed by people of the locality who made a thoroughfare through the garden. The Department repaired and restored the fencing several times only to be spoiled again by local people. In the absence of a wall, wild boar often intrudes causing widespread damage to the garden. In order to prevent this destruction, the only solution was to reconstruct the missing part of the boundary wall. An estimate was prepared and its execution taken in hand to build the missing part in alignment with the original, but omitting the interior decorative panels and niches etc., upto a height of 8 feet only. By the close of 1968-69 the rebuilding of the wall in the east was almost complete and the remaining part, and the missing part of the southern wall, were completed in 1969-70.

IV. Empress Nur Jahan's Tomb at Shahdara (Pl. XL-XLI).

This graceful mausoleum, probably erected by her during her lifetime, was one of the worse victims of Sikh vandalism among the Mughal buildings of Lahore. Virtually all its original beautiful embellishments were ruthlessly robbed by the Sikhs. By a painstaking process of observation and research the veneer materials encasing the existing exposed core of the monument and the various pattern and motifs decorating the surface were worked out and a programme for extensive repair was prepared and adopted for execution. The facades were originally veneered with red sandstone with inlay works of white marble, black marble and *sang-e-khatu* while the parapet was of marble but as an economic measure it was decided to restore them in cement concrete producing the details of the facade and parapet in the same colour to match the

original works. When the northern facade was thus repaired, it produced the impression of an imitation work and in spite of sufficient care the desired stone effect could not be achieved.

The experiment did not succeed as the use of stained concrete was objected to by many on the ground that it was neither conservation nor restoration. It was also unwelcome to the public at large. Subsequently the decision was revised in favour of restoration in materials originally employed for its construction. In 1966 a phased programme, at an estimated cost of Rs. 2,31,395/- was worked out for the restoration of the western facade and its execution taken in hand. This estimate does not include the restoration of parapet and the *dasa* as marble suitable for the screen was not available.

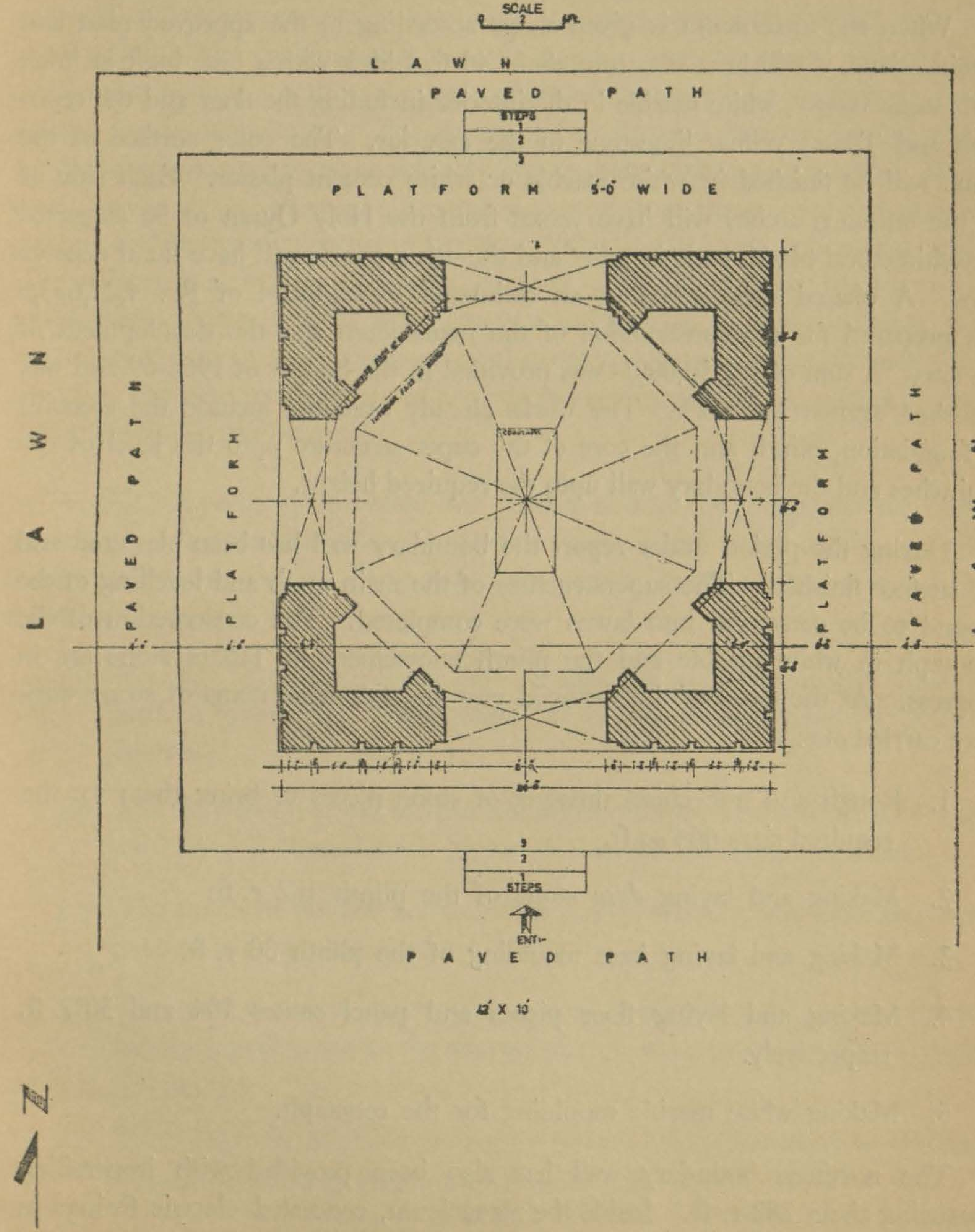
The work was taken in hand during 1967-68 and an amount of Rs. 25,000/- was absorbed. Since then an equal amount is being spent on this work and, till now, about three quarters of the work on the western facade has been completed. Red sandstone slabs have been cut in proper shape and size for its vertical surface and for the arches of the openings and cavities, for setting the inlay work. Simultaneously, the designs of the inlay works were prepared and fixed in their proper position.

V. Qutubuddin Aibak's Tomb

Sultan Qutubuddin Aibak, the first Mulim Emperor of the sub-continent lies buried in an unpretentious, ruined and heavily encroached grave situated in a by-lane of the Anarkali Market, Lahore. It is in a woefully neglected condition. Nur Ahmad Chishti, in his Tehqiqat-i-Chishti, records that there was an imposing mausoleum over the grave of the Sultan which was pulled down during the Sikh rule in the Punjab. Since Independence, there was persistent public demand for a suitable memorial to be provided over the grave and to improve the surroundings, befitting the Emperor's memory. The Department of Archaeology took the initiative in the matter and acquired the immediately surrounding lands with their buildings. Thereafter, the encroaching modern buildings in the vicinity of the grave were demolished and the site properly levelled and dressed.

The Government of Pakistan formed an Expert Committee in order to help the Department in preparing a suitable plan for the proposed memorial. The Committee commissioned Mr. Kamil Khan Mumtaz, Professor of Architecture, National College of Arts, Lahore, to prepare a design. As the design prepared by him was based on modern western trends of architecture and had no

PROPOSED PLAN FOR THE TOMB OF SULTAN
QUTB-UD-DIN AIBAK AT LAHORE.



link with the traditional architectures of the period to which the Sultan belonged, it did not receive the approval of the Committee. Subsequently the Department worked out a design after thorough research and study of the architecture and architectural traditions of the early Sultanate period. A model and necessary drawings were prepared and approved by the Committee, with few minor modifications. (Fig. 21).

When the mausoleum is given shape according to the approved plan and specifications, it will be a structure about 40 feet high with a core built in brick with stone veneer, white marble in the interior including the floor and the cenotaph and Thatta yellow limestone in the exterior. The outer surface of the dome will be finished in white marble or white cement plaster. Each side of all the entrance arches will have verses from the Holy Quran to be engraved in architectural Naskh style in relief and the other panels will have floral decorations. A phased programme at an estimated expenditure of Rs. 4,24,633/- was prepared for the construction of the mausoleum and the development of the site. A sum of Rs. 50,000/- was provided in the budget of 1968-69 and was absorbed against the work. The works already executed include the erection of foundation, plinth and the core of the super-structure upto the level of the squinches and the boundary wall upto the required height.

During the period under report the boundary wall has been plastered and the surface finished. The superstructure of the main tomb and levelling of the ground to be converted into lawns were completed. The construction of the cenotaph in white marble and the plinth encasement in Thatta stone are in progress. At the close of the financial year the following items of stone work were carried out:—

1. Rough and fine chisel dressing of stone pieces to bring them to the required sizes 664 sq.ft.
2. Making and laying *dasa* stone of the plinth 182 r. ft.
3. Making and laying base moulding of the plinth 30 r. ft.
4. Making and laying floor pieces and panel stones 104 and 30 r. ft. respectively.
5. Making white marble moulding for the cenotaph.

The northern boundary wall has also been provided with iron-railing measuring about 282 r. ft. Inside the mausoleum, concealed electric fittings in P.V.C. pipes have been completed during the period under review.

VI. Shalamar Garden

The celebrated Shalamar, the enchanting terraced pleasure garden of Lahore, was constructed by the Mughal Emperor Shah Jahan but in succeeding ages suffered heavily from the ravages of time, the vandal hands of the Sikhs, atmospheric actions and devastating floods. The conservation works executed from time to time by the Department of Archaeology, however, have considerably improved its appearance and a few more measures were adopted this year for preservation. The dividing wall between the first and the second terraces and the western boundary wall in the lower parts of their northern and eastern faces showed heavy depredation. The damaged and decayed face course was taken out and new tiles set in place securely laying them with proper toothing. While repairing them thus, every care was taken to reproduce the original architectural features and decorative designs in harmony with the adjoining surface ornaments. The disintegrated brick-paved path, running along the southern boundary wall was dismantled to a depth of about one foot and repaved by new cut and dressed bricks, setting them on edge in original geometric pattern, over a damp-proof course. The core was built up in cement mortar but the visible surface in lime kankar to match the original.

Under a specific programme the garden is kept in presentable condition particularly on occasions when important visitors and other dignitaries both foreign and local, visit it. This year's programme in this regard covered the following items:—

(*a*) The silt or greenish moss that accumulates or grows on the masonry surface (submerged under water) of the canals was removed twice a month.

(*b*) Marble jallies, the marble cascade, marble throne and marble dado were washed and cleaned with glycerine soap and carboradum stone.

(*c*) The canals of the first terrace, after careful washing and cleaning, were painted with synthetic enamel.

(*d*) The main entrance, the central pavilion overlooking the second terrace, pavilions and tanks in the second terrace were given a wash of white distemper.

(*e*) The Naqqar Khana and the corner alcoves and Khawabgah in the first terrace were also given a wash of white lime.

(*f*) Petty and urgent repairs were carried out everywhere.

The aforesaid dividing wall had originally marble railing on its top but the Sikhs, during their rule, removed the railing and set in its place a terracotta railing which presents an incongruous appearance and mars the beauty of the garden.

The Department of Archaeology worked out a plan to replace the terra-cotta railing by a new marble railing and obtained sanction of the appropriate authority for its execution. Implementation started in 1967-68 and kept in progress in 1968-69. The Department of Tourism is cooperating with this Department in this regard and is providing necessary funds for the payment of labourers while the latter is supplying the required marble. Marble slabs have been cut and dressed according to approved sizes and thickness. Some jallies of the required design which cover an area of 62 s. ft. have been prepared. In addition to these, ten side-posts, also of marble, have been shaped.

VII. Sharfun Nisa Begum's Tomb (Sarvwala Maqbara)

The mortal remains of Sharfun Nisa Begum, sister of Nawab Bahadur Khan, the Viceroy of the Panjab in A.H. 1067 (A.C. 1656) are entombed in an elevated square tower where she used to recite the Holy Quran for one hour daily. The tomb is commonly known as Sarv-wala Maqbara on account of the paintings prominently depicting the cypress tree. The protected area around the tomb was frequently encroached upon by the people of the locality and was being utilized as a ground for drying unsightly cow-dung cakes. In order to maintain the surrounding in a clean and attractive condition and to prevent public encroachment, a barbed wire fencing was erected around it. Petty urgent repairs were also carried out to the interior of the structure.

VIII. Nawab Bahadur Khan's Tomb

The mausoleum, a massive brick structure, raised on an octagonal platform and crowned by a lofty dome originally had important architectural features and grace typical of its period, but with the passage of time it lost much of its characteristic features. Conservation measures adopted last year, besides arresting its further decay, have considerably improved its condition. More works were executed this year. Damage at different parts of the tomb were repaired, taking out the decayed bricks and fixing new bricks in their position. Disintegrated parts of the floor were restored. Petty and urgent repairs were attended to carefully and the existing broken fencing repaired.

IX. Nadira Begum's Tomb (Pl. XLII)

The mausoleum over the grave of Nadira Begum, wife of Dara Shukuh, stands near the mazar of Hadrat Mian Mir, her spiritual guide, in the centre of a big tank, access to which is provided through a causeway connected with the east bank. The structure suffered much at the hands of unauthorised occupants before it was protected in 1956. Much damage had been done to its superstructure, floors etc., and repair works started last year, remained in progress this year. Restoration work to the eastern facade, including the soffits of the main central arch opening, projected inclined eave and vertical parapet, was carried out in 1967-68. During the current year the eave on the north and west sides were restored with R.C.C. slabs and finished with kankar lime plaster. The disintegrated *ghalibkari* work of the central main arch openings in the north was reproduced in original pattern. The decayed plaster of the northern facade was renewed with 2½″ thick inner part in cement concrete and ½″ thick outer part in lime kankar mixed with white lime cream, restoring the decorative panels to the original character.

X. Shaikh Musa Ahangar's Tomb

The above mausoleum, the oldest Mughal building in Lahore outside the fort, when protected in 1967-68 was in a highly dilapidated condition. In fact it was feared that it might collapse at any moment. To save the monument from this, an estimate for its immediate and thorough repair was framed and executed. Works thus carried out include underpinning the exterior surface of its walls with new cut and dressed brick works in original fashion and setting up securely the loose mosaic tiles or renewal of these decayed on the wall surface and dome. The interior wall surface up to cornice level was finished with 2″ thick lime plaster. The floor, which had completely disappeared, was renewed by laying finely dressed bricks of special size on edge with geometrical pattern. The core was built up in cement mortar and the visible surface joints treated with fine kankar lime.

XI. Chauburji Gateway (Pl. XLIII)

The Chauburji Gateway, well-known for its rich glazed tile decorations, was so named for its four original graceful turrets crowning its 4 corners (now one is missing) and was founded in 1056/1646. Originally, it was attached to a garden which disappeared long ago. To keep the tastefully ornamented gateway in a good state of preservation some urgent conservation measures were adopted this year. The damaged and decayed bricks of the southern wall were

replaced by new cut and dressed brick tiles in harmony with the adjoining original architectural features and ornaments. The encolosure wall, repaired in the previous year but not then plastered, was plastered in cement mortar with a finish in kankar lime shade. The top of the enclosure wall was overlaid with 2" thick layer of cement concrete in order to make it secure and watertight. Petty and urgent repairs, including cement grouting, edging of plaster and mosaic tiles, were also carried out everywhere.

XII. Sheikhupura Fort (Pl. XLIV-XLV)

The Mughal fort at Sheikhupura, originally built by Emperor Jahangir in 1015 A.H. underwent subsequent additions and large scale alterations during the Skih and British periods. It was declared protected in the year 1968 and when it was taken over by the Department, it was in a progressive state of decay and needed urgent and thorough repair, but short of funds and technical personnel did not allow the Department to undertake large scale conservation works immediately. However, a sum of Rs. 20,000/- was allocated for its conservation during the year under report and was appropriately absorbed.

The perimeter wall near the south-west corner, measuring 40'x35'x5' had collapsed some tiue ago, and whose wreckage formed into a ramp provided easy access to intruders. This missing part was restored with modern brick work in cement mortar matching the adjoining surface. The walls in the underground chambers and other structures of the fort, which developed many deep and long cracks and showed heavy damages were attended to appropriately as provided in the sanctioned estimate. Depressions here and there were filled in with fresh earth and the ground levelled up. The whole area was made neat and tidy, collecting scattered brickbats and stacking them at a suitable place. Proper drainage was also provided for smooth, unhindered passage of rain water.

XIII. Hiran Minar and Tank

The Government decided to levy entry fee to the above site. In order to enforce it and to control the entry of visitors, construction of a booking office and a barbed wire fencing around the site was considered essential. Accordingly, a booking office measuring twelve feet by twelve feet with a verandah eight feet wide in front was constructed and the eastern and northern boundary lines of the protected area, for a length of 3600 ft. were enclosed with barbed wire fencing, fixed in R.C.C. posts at a regular and suitable distance.

XIV. Harappa Remains

The supporting foundation debris of the excavated structural remains, exposed to prolonged atmospheric action, had dangerously been undermined. To save them from imminent collapse and destruction, appropriate supports by *pushtas* of sweet earth were provided. In addition, petty but urgent repairs needed for other structures were attended to. Depressions here and there were filled up and some new paths constructed for the convenience of visitors. In addition, the entire site was made neat and tidy by clearing away wild growth and removing loose debris.

Atmospheric actions had caused considerable deterioration to the furnace in the 'working platform' and 'servant's quarters'. For its protection from further deterioration and proper maintanance, a R.C.C. shed was constructed over the furnace.

XV. Banbhore

The atmospheric conditions of this region are such that deterioration of the exposed structural remains of Banbhore, one of the earliest settlements of the Muslims in the sub-continent, goes on rapidly requiring urgent and constant attention. As such, continuous efforts had to be made for its proper maintenance. The conservation works carried out year after year have kept the remains in a good state of preservation and considerably improved their appearance. A sum of Rs. 13,000/- was allocated this year for conservation of the Jami Mosque in the Industrial Area and for the development of the garden. This amount was properly utilized as envisaged in the estimate. One of the important items of the work at the Mosque was the restoration of its highly disintegrating brick pavement of the courtyard. Petty and urgent repairs to various parts of the mosque were also done. The 'rows of heavy textured large earthen ware troughs with pointed bases fixed on the floor' uncovered in what has been termed the Industrial Area, were covered by the accumulation of sand and dust. The area was re-excavated and the troughs exposed again. It was enclosed by barbed wire fencing fixed in R.C.C. posts.

Four new large plots were reclaimed in the garden. Various seasonal and permanent types of flower plants were planted in both old and new plots. With these developments, the garden has assumed an attractive look.

Among other works executed under a special repair programme, those deserving more than a passing reference are conservation of the mausoleum of

Isa Khan II at Makli Hill, Thatta, Mir's Haram, Hyderabad, Umerkot Fort, Mohenjodaro remains, Attock Fort and Margala Monuments.

XVI. The Mausoleum of Isa Kahn II

The tomb of Isa Khan II, the Governor of Thatta under the Mughal Emperor Shah Jahan, constructed by himself, is profusely decorated with delicate stone carving and shows the influence of architectural style of Akbar's period. The structure was in a highly dilapidated condition particularly the western and southern walls which went out of plumb and caused serious cracks in the capitals, lintels etc. As preliminary measures, all four sides of the tomb were appropriately propped before systematic conservation works could be taken up. During the years 1964 to 1967, the western facade was restored after taking down individual stone members very carefully and resetting them securely in their position. The restoration work of the southern facade was taken in hand this year, but due to scarcity of funds very little progress could be made. Only the top floor and the first floor of the facade were dismantled with utmost care to avoid damage to fine tracery work, corner slabs etc., and re-erected with stone members in chiroli mortar.

The old lime plaster of the main dome was highly disintegrated and in consequence rain water percolated. The interior surface of the dome showed signs of saltpetre effect. The decayed plaster was scraped out, joints raked and two coats of bitumen laid out to make the dome water tight. Finally, the surface was plastered afresh.

XVII. Mir Nasir Khan's Palace

Mir Nasir Khan's palace known as Mir's Harem in Hyderabad Fort was in a progressive state of decay. Work for its restoration and preservation were executed during 1951-54 and 1958-60 and its condition was improved considerably. Restoration of the wooden verandah, its roof and posts and the floor engaged our attention this year. The old roof of the verandah, covering about 214 sq.ft. was dismantled and reconstructed in its original features with new pane wood battons, planks and brackets covering them on top by Surki-Sarkanda and 3" thick mud *bhusa* plaster. The vertical wooden posts supporting the roof were strengthened, placing beneath them burnt brick masonry in cement mortar. An area of 1478 sq.ft. the disintegrated floor was dismantled and relaid with cement concrete. Decayed plaster on the western and northern walls was removed and replaced by new plaster in cement, lime and sand (1:1:5). In addition, some urgent petty repairs were carried out.

XVIII. Umerkot Fort

The mud fort at Umerkot possibly constructed by one of the Sumrao rulers in the 12th century of the Christian era and later became famous as the birth place of the Emperor Akbar, was in a progressive state of decay. Conservation measures carried out in past years considerably improved its condition but the perimeter wall in the north which could not be attended to earlier for want of funds was in a dilapidated condition. A sum of Rs. 4,000/- was allocated this year for its restoration and was utilized in accordance with an approved estimate. The cracks and crevices were repaired with good earth puddling and mud grouting etc. The disintegrated brick lined exterior face was also restored, setting the bricks in mud mortar in original pattern. The top of the wall was made water tight by laying three courses of burnt bricks in mud mortar, and covering it by a layer of 9″ thick earth.

XIX. Mohenjodaro Remains

Problems of great magnitude, posed by water logging and salinity, progressive erosion of the bank of the river Indus towards the site and various other causes of decay are to be overcome to preserve effectively both the exposed and buried cultural remains of Mohenjodaro, the pride of Pakistan's past heritage. While efforts are being made at national and international levels to combat these formidable destructive agencies, the Department of Archaeology have constantly been taking measures according to the availability of the funds and urgency of repairs to the various sectors of the exposed structural remains.

A sum of Rs. 15,000/- was earmarked and fully spent in executing the conservation measures envisaged in the Special Repairs programme of this year. Due to saltpetre and sub-soil water action, the floor of the Great Bath showed signs of disintegration. It was conserved in fine masonry work according to its original features. In addition, the undermentioned steps were taken to arrest further decay and deterioration of the exposed remains.

(*i*) Collapsed or damaged walls were restored or repaired with specially manufactured bricks of the original size.

(*ii*) River sand was filled in by the side of the foundation of the walls with a view to reduce the capillary action of sub-soil water and thereby minimize the effect of salt-petre action.

(*iii*) Wall tops were given mud capping with sand moulded bricks to protect them against atmospheric action.

XX. Attock Fort

This historic fort is a protected monument and is in the occupation of the Army. It was constructed by the Mughal Emperor, Akbar the Great, in A.H. 991 (1583 A.C.) as a military post to guard a highly strategic river crossing on the Indus. It has suffered heavily from the destructive agencies of man and ravages of time and needed urgent repair and maintenance. Some repairs were carried out in 1961-62. The perimeter wall in the south-west facing Mallahitola town collapsed at several points in big patches. These patches were restored in cement mortar, with a finish of stained Surkhi lime pointing so as to match the original adjoining surface. Other large damaged patches on the inner face of the fortification wall on the north near Lahore Gate were also repaired. Fresh lime-surkhi pointing was done to the surface, covering about 4000 s.ft. area on the interior and exterior faces of the fortification wall.

XXI. Margalla Monument

Visitors climbing up the steep slope to reach the Margalla monument experienced difficulty for want of an approach path. A flight of steps was, therefore, constructed from the foot of the hill to remove this inconvenience. Four R.C.C. benches were also provided around the monument. Other work done to Margalla monuments is the repair of a surviving portion of the old Grand Trunk Road, built by Sher Shah. Its dilapidated side walls, particularly the western wall were repaired in ashlar masonry filling the gaps made by missing slabs by laying new stone slabs in cement mortar.

An R.C.C. indication board was provided at the crossing of the older part of the Grand Trunk Road and the later period Grand Trunk Road.

RESTORATION OF THE FRESCO DECORATION AT THE MOSQUE OF MARYAM ZAMANI AT LAHORE

by

Ahmad Nabi Khan

[Plates XLVI — LIII and Figs. 22 to 26]

AMID the crowd of shabby, modern buildings of various types, opposite the Masjidi Gate of the Moghul Fort at Lahore, stands a rather inconspicuous ancient mosque now commonly called Begam Shahi Masjid (Pl. XLVI). Built by Queen Maryam Zamani, an empress of the Moghul emperor Akbar and the mother of Jahangir, it is the earliest dated mosque of the Moghul period in Lahore. It was constructed during the early period of Jahangir in 1023 A.H./ 1614 A.D., as recorded in a Persian inscription fixed on the facade of the northern gate[1] (Pl. XLVIII). Architecturally, the mosque is important for two significant feautres: first, it is crowned with a double dome, a characteristic met with first in the historic buildings at Lahore and, secondly, the entire interior of its paryer chamber is replete with colourful fresco decoration.

At the time of its construction, this was the only important mosque located in the vicinity of the fort, and therefore was frequented by the nobility of the Moghul court. It was perhaps for this reason that the entrance to the fort was called '*Masjidi darwaza*' now corrupted into '*Masti darwaza*' (Masti Gate)[2].

1. There is however, some confusion about the date of the completion of the mosque. The *abjad* calculation of the chronogram (خوش مسجدی) gives the date 1023 A.H., while figures in both the inscriptions clearly record 1020 A.H. (see pl. XLVIII a & b)

2. This is indeed a conjectural supposition based on the etymological variation of the word '*Masjidi*' which has been corrupted into '*Masti*'. No contemporary or later historian has recorded the names of the gate of the Fort, which had at least two at the time of Akbar. Even the earlier mud fort on which Akbar founded the present brick fort, had more than one gateways *c.f.*, Abul Fazl Allami, *Akbar Namah* (Calcutta 1879-82), vol. i.,p. 538.

The Founder

Of Maryam al-Zamani[3], at whose instance the mosque was constructed, very little is known. She was a Rajput princess of the Kachwaha clan and the eldest daughter of Raja Baharimal, ruler of Ambar. Even her real name is not mentioned by any contemporary or later historian[4]. Abul Fazl, the principal biographer of Akbar, records the circumstances which led to this metrimonial alliance.[5] He says that Akbar married the daughter of Raja Baharimal in 968 A.H./1560 A.D. at the later's instance at a place named Sanvhar near the modern town of Jaipur in India. He does not record the exact date of the marriage, but says that the ceremony was held on his return from the visit to the celebrated saint Shaikh Salim Chishti in Jamadi al-Awwal 968 A.H.[6] / January 1561 A.D. The event must have, therefore, occurred in the first half of February 1561 A.D.

The Rajput Queen gave birth to a child after more than seven years on 17th Rabi al-Awwal 977 A.H./30th August 1569 A.D. who was destined to become the successor of Akbar under the title of Jahangir. Abul Fazl gives a detailed account of this auspicious occasion[7].

As usual with the ladies of the royal harem, only indirect and scanty references are available in the contemporary as well as later authorities which give glimpses into the events connected with the life of Maryam Zamani. The best source

3. There has been a lot of confusion about this title and its attribution. A number of authors, specially European unmistakably misled with the word 'Maryam' (Mary), have concluded that she was a Christian lady. Later researches have, however, proved this assertion baseless. For detailed discussion on the subject, *see* Maclagan, Sir Edward, *The Jesuits and the Great Mogal* (London, 1932), p. 158 and notes on pp. 160-61; also *idem* "The gesuit Missions to the Emperor Akbar" in *J.A.S.B.* part i, no. i (1896) p. 38 *sqq.*; Smith, E.W., *Moghul Architecture of Fatehpur Sikri* (Allahabad, 1896) vol. ii. p. 17; *idem*, *Akbar's Tomb at Sikandrah*,(Allahabad,1908)p. 1; Smith,V.A., *Akbar the Great Moghul*(1542-1605) (2nd Indian Ed., Delhi,1958) p. 42 and n.3. Meclagan and Smith call 'Maryam al-Zamani' a posthumous title, which is not correct as we find her son Jahangir calling her Maryam Zamani even during her life time. *See* Rogers, A. and Beveridge, H., *Tuzuki-Jahangiri* (Eng. Trans.) (London, 1909-14), etc., Blochhman has also confused the difference by saying: "As Akbar's mother had the title of 'Maryam Makani so was Jodha Ba'i (this has, however, been corrected later by the author himself c.f. *op. cit.* additional notes p. 619) called Maryam-uz-Zamani, meaning that as Akbar's mother, Hamida Banu Begum had the posthumous title Maryam Makani, so had the Rajput lady, Maryam Zamani. The confusion has resulted due to the fact that almost all the Moghul Emperors and their principal consorts were traditionally bestowed such honorific titles posthumously. The case of Jahangir's mother, however, is different. Another interesting point to be mentioned here is that no contemporary or later historians have called her with this title except Jahangir. He mentions her as many as twelve times and always calls her by this title. We, however, do not know when this title was bestowed upon the Queen. It may be presumed that Akbar might have conferred this title on the Queen at the birth of Jahangir but for this we do not have any contemporary source. Garden Sanderson's reference to Blochhman for this assertion is incorrect. *See* Marshall, Sir John (Ed.) *ASIR* 1910-11, p. 95. In fact, all his references to various authorities need re-checking.

4. *c.f.* Srivastava, A.L., *Akbar the Great* (Delhi, 1962) vol. i, p. 63, n. 19, who records that her name was probably Man Mati. He does not, however, quote authority for his assertion.

5. Abul Fazl Allami, *Akbar namah*, vol.ii. p. 156. For an analytical study, *See* Srivastava, A.L., *op. cit.* vol. i. p. 61 *sqq.*

6. Abul Fazl Al'ami, *op. cit.*, vol. ii. p. 156.

7. *Ibid*, p. 44 sqq.



Maryam Zamani Mosque, Lahore: Fresco decoration in the interior of prayer chamber.

of our information in this connection is the biography of her own son, Jahangir, who mentions her more than once. Each time, he writes about her with respect and reverence[8]. A close study of these notes reveals that the Queen Mother had a very high position in the imperial household; almost all the important events of the family used to take place at her palace. Jahangir records that twice he was ceremoniously weighed on his brith-day at the house of Maryam Zamani[9]; the marriage feast of Prince Pervaiz was performed at her house[10]. Even his own marriage with the daughter of Raja Man Singh was performed in her house[11]. The reverence the Emperor had for his mother, may be estimated from the following note in his memoirs:

> "On Friday the 12th of the month mentioned (Rabi al-Akhir), I embarked in a boat and went to a village named Dahr to meet my mother and I had the good fortune to be received by her. After the performance of obeisance and prostration and greeting which is due from the young to the old according to the custom of Chingiz Khan, the rules of Timur and common usage, and after worship of the king of the world (God) and after finishing this business, I obtained leave to return, and re-entered the fort of Lahore." [12]

Similar sentiments were expressed by the Emperor when he met her in Kashmir. Says he:

> "On the same day, Her Majesty the reverend Maryam Zamani (his mother) came from Agra, and I acquired eternal good fortune from the blessing of waiting on her. I hope that the shadow of her bringing up and affection may be perennial on the head of this suppliant." [13]

After enjoying the respect of and influence over two great Moghul Emperors for more than sixty years, the Queen Mother died on the 19th Rajab 1032 A.H./ 9th May 1623 A.D. at Agra. Jahangir records in his memoirs:

8. For details *see* Tuzuk-i-Jahangiri *op. cit.* vol. i. pp. 76, 78, 230, 81, 145, 401 and vol. ii. pp. 64, 66, 68, 123, 232.

9. *Ibid* vol. i. p. 78 and 230.

10. *Ibid* vol. i. p. 81.

11. *Ibid* vol. i. p. 145.

12. *Ibid* vol. i. p. 76. The occasion referred to here is the visit of the Emperor to Lahore in connection with the pursuit of Khusrau in Zil-Hijjah 1015A.H./1606 A.D. For a detailed account of Khusrau's revolt, *see* Rogers and Beveridge, *op. cit.* vol. i. p. 51 *sqq.* For a more comprehensive description, *see* Beni Prasad, *History of Jahangir*, (3rd ed. Allahabad, 1940) p. 120 *sqq.* Jahangir points out that on this occasion he was staying at the Kamran's Baradari (now in a ruinous condition) and that the Queen mother was living at a village called Dahr which was most probably located across the Ravi as the emperor had to embark in a boat to reach there.

13. *Ibid* vol. ii, p. 68.

"On this day (19th Rajab 1032 A.H.) news came from Agra that Her Highness (hazrat) Maryam-uz-Zamani, by the decree of God, had died. I trust that Almighty God will envelop her in the ocean of His mercy." [14]

The Queen mother was buried at Sikandra, Agra, and a splendid tomb was erected over the grave by Jahangir.[15]

During the long period of authority which she enjoyed, Maryam Zamani erected a number of monumental buildings at many places of the Moghul Empire. Some of these buildings still exist which remind us of the glorious days they once enjoyed. Her own palace at Fatehpur Sikri[16], the mosque at Lahore, and a garden and a Baoli (a well with steps) in Bayana, are among the extant monuments. About the Baoli, Jahangir records in his memoirs that it was 'a grand building constructed at a cost of Rs. 20,000' [17]. According to T. W. Beale who recorded in 1873 A.D., the garden had then disappeared but the baoli still existed. It was built in the 7th year of the accession of Jahangir (1022 A. H./1613 A. D.) with red stone and had a Persian inscription carved on a marble slab and fixed over the facade.[18]

The Mosque: Architecture

The mosque covers an area of land measuring 135 feet 6 inches by 127 feet 6 inches. It is constructed of brick masonry and rendered with plaster, and is a massive structure representing a transitional phase of architecture between the Lodi and the Moghul periods (Fig. 22). It has two entrances through deeply recessed arched-gateways on its north and east sides. A flight of four steps in each gateway leads downword to the main courtyard, measuring 123 feet by 83 feet. The courtyard was originally enclosed by rows of cells on its north and south, some portion of which still exists. On the east, along the gate, is a 17 feet wide platform on which stands an enclosure consisting of an octagonal domed tomb and some other modern graves.

In the centre of the courtyard a tank for ablution measuring 31 feet 5 inches by 26 feet 3 inches, now much repaired. A modern roof of re-inforced

14. Rogers and Beveridge, *op. cit.* vol. ii, p. 261.

15. Sanderson, Gordon, 'Conservation Works at Agra and Neighbourhood' in *ASIR* 1910-11 pp. 94-96. The article includes an account of the tomb of Maryam Zamani at Sikandra, Agra.

16. For a detailed architectural description, illustrated with drawings and photographs, *see* Smith, E.W. *op. cit.* vol. i, pp. 31-38.

17. Rogers and Beveridge, *op. cit.* vol. ii, p. 64.

18. Proceedings *A.S.B.* (August 1873) p. 159.

cement concrete (R.C.C.), supported by two rows of round pillars, covers the tank partially on its four sides. The courtyard must have been paved with brick tiles in usual Moghul fashion, but it has now been completely re-laid in modern bricks. At the north-west and the south-west corners, beside the prayer chamber, are located the old stair-cases leading to the roof. Similarly, on the north-eastern and south-eastern corners were stair-cases leading to the roof of the cells, only their traces are left now.

The prayer chamber of the mosque, however, is of special interest (Figs. 23 & 24). Architecturally, it is an oblong structure measuring internally 130 feet 6 inches from south to north and 34 feet from east to west. It has five compartments divided by heavy engaged arches supported by massive jambs and surmounted by high domes. The central double dome is the highest, placed on a high and round neck (11 feet 1 inch). The double dome consists of two shells—outer (3 feet 6 inches thick) and inner which is of stucco. A wooden framing connects the two shells for re-inforcement. The outer shell has a small arched opening on the west.

The front openings of the chambers, five in number, possess four-centred arches, the central one being the highest and the biggest with a high parapet and a projected frame (Pl. XLVII). The whole outer surface of the front has been treated with thick lime plaster creating decorative arched-panels in recess. Inside the prayer chamber, there is a series of high and deep arched-recesses set in all the five compartments on the west. The central niche, the *mehrab*, has an engrailed arch, treated specially with profuse stucco ornamentation, both geometric, floral and inscriptional. The half-domed niche of the central arched-opening and the *mehrab* has been filled with low stalactites. The remaining four compartments have the same engrailed-arch treatment, though comparatively smaller and less decorative.

At the four corners of the prayer chamber are placed small square-shaped pavilions (6 feet 10 inches) with four arched-openings surmounted with cupolas placed on octagonal drums. Originally, the cupolas were crowned with low crestings and finials like the five bigger domes over the main prayer chamber. These have now considerably decayed.

The architectural arrangement described above conforms precisely to the traditional mosque architecture developed in the Indo-Pakistan sub-continent. The various architectural elements, specially those of the prayer chamber, remind us of their earlier forms seen in the historic mosques at Delhi, Ajmer,

Bada'un and elsewhere in the Subcontinent, and give us an idea of their gradual development and the perfection which was achieved during the Moghul period.

The Surface Decoration

The mosque, however, stands out uniquely for its fresco decoration with which the whole of the interior surface of the prayer chamber is replete. The paintings have been rightly regarded as un-rivalled in Pakistan and perhaps in India, 'for their delicacy and lively variety[19].

The use of fresco paintings as a means of surface decoration has been favoured in the sub-continent from the very early days. The early examples at the Jogimara cave in Mirzapur District and those at Ajanta and Bagh take us deep into antiquity. The tradition has since continued in the Subcontinent and during the Muslim rule, we find it applied extensively. The fabulous buildings erected by Akbar and his successors at Agra, Lahore, Fatehpur Sikri and Delhi, possess some exquisite examples of this type of decoration.

The fresco paintings at the mosque of Maryam Zamani are significant for their perfect technique and variety of subject. Never in the history of the architecture of the early Moghul period do we find such an extensive and exclusive use of this type of decoration. The endless variety of geometric, floral and inscriptional designs spread over the interior surface in a subtle colour scheme is a characteristic not seen elsewhere. The surface has been divided into various panels of different shapes and dimensions according to the space available and all the soffits, niches, squinches, arches, interior of domes, appex etc., are covered with these paintings (Pls. XLIX-LIII). The squinches have been provided with low stalactites (Pl. LIII b) painted with small flower twigs, while the adjoining areas are divided into arched-panels which have bold interwoven floral patterns. Some of the borders of the panels have geometric schemes of decoration (Pl. LI b). The patterns have been mainly created by carving slightly incised lines in white. The interior of the dome has similarly been divided into honeycombed geometric patterns, filled with delicate floral tracery. The small space in between is filled elegantly with stars which bear some of the attributes of *Allah* done in naskh characters (Pl. LI b). The superb combinition of colours is also noteworthy. Almost all shades of green, ochre red, blue, yellow, black etc., have been used for the purpose without giving the whole scheme an obtrusive effect. (colour plates I—III).

19. Wheeler, R.E.M., *Five Thousand Years of Pakistan*, (London, 1950) p. 83.

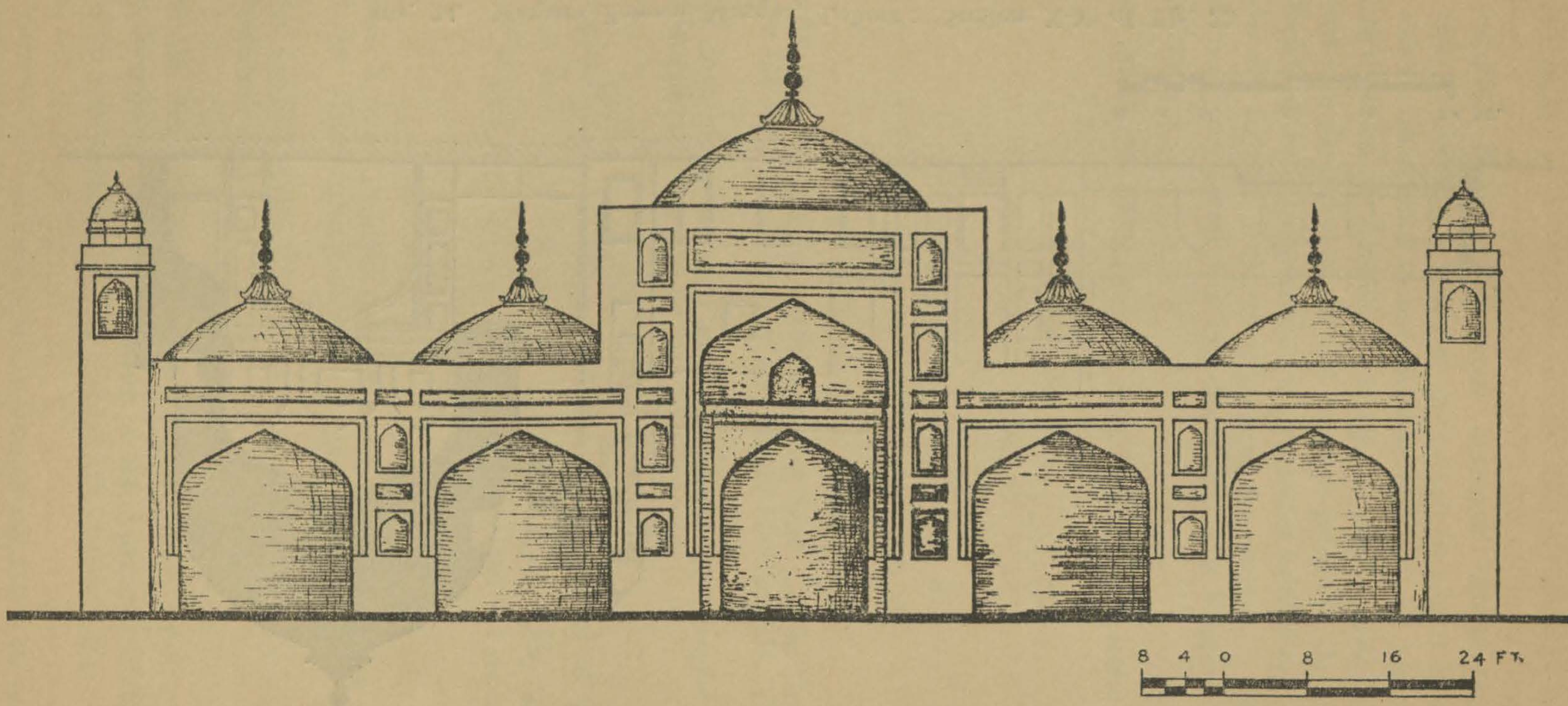


Fig. 23. Maryam Zamani Mosque, Lahore: Elevation of prayer chamber.

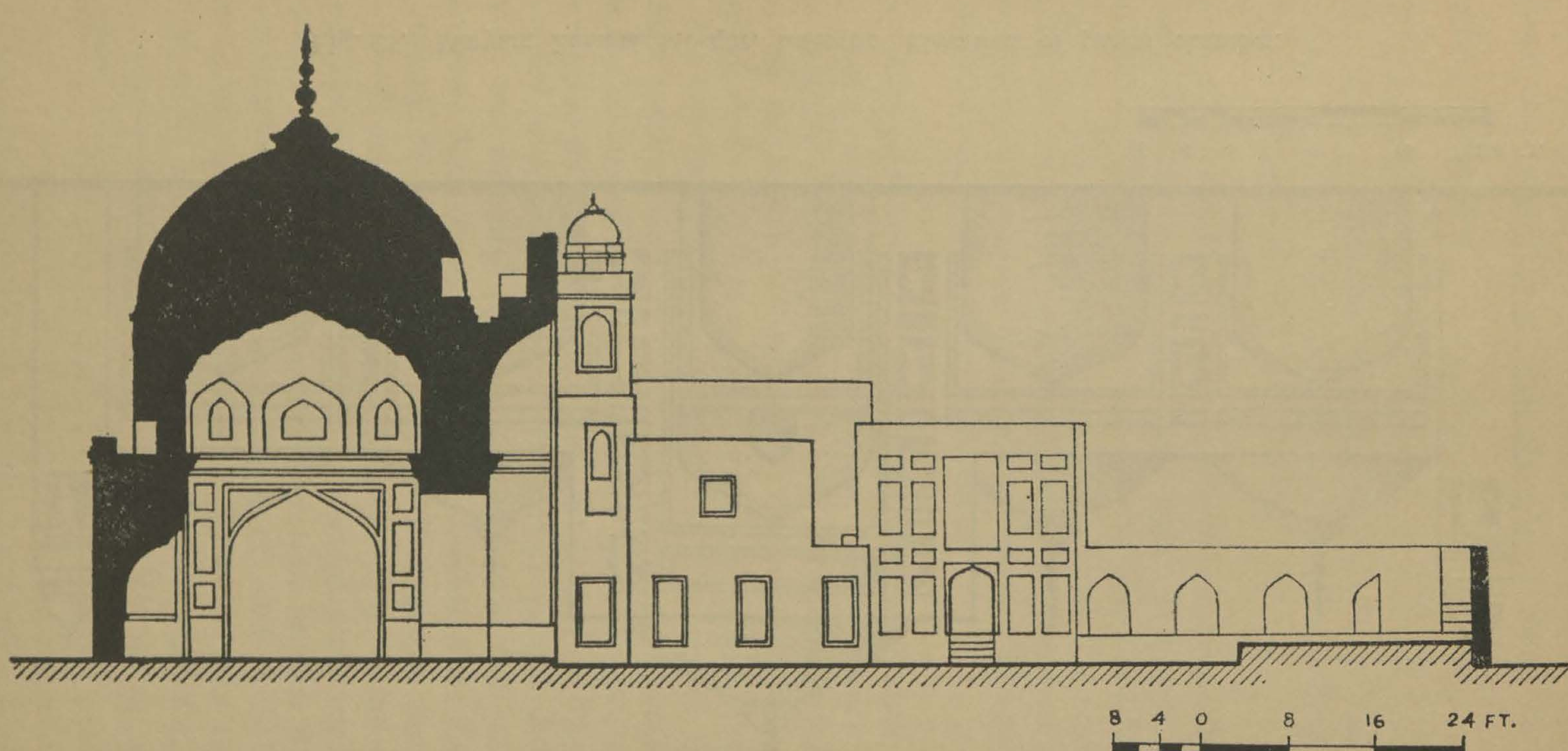


Fig. 24. Maryam Zamani Mosque, Lahore: Section X-Y of Fig. 22

The Inscriptions

As remarked earlier, the mosque possesses several inscriptions, both Quranic and non-Quranic, executed exclusively in plaster in high and bold relief - a characteristic which is met with first here in the historic monuments of the Moghul period at Lahore. Among the non-Quranic inscriptions, the two executed over the arches of the two entrance-gates and the one executed on the high facade of the prayer chamber are important as they record the name of the founder and the date of the completion of the mosque. The inscriptions on the entrance gates are in nast'aliq characters. The following is the text of the inscriptions:

(*a*) Persian inscription within arched panel fixed on the eastern gateway.

مسجد بیگم شاهی
بمطابق ۱۰۲۰

شاه عالمگیر نور الدین محمد بادشاه
باد یارب درجهان روشن چو نور مهر و ماه

Begam Shahi Mosque 1020 (A.H.)
May the conqueror of the world, Emperor Nur al-Din Muhammad, shine in the world like the Sun and Moon, O Allah (Pl. XLVIII a).

(*b*) Persian inscription executed over the central arched-panel fixed on the northern gateway.

الله اکبر
منت ایزد راکه آخر گشت کار از ابتدی هم بتوفیق خدا و حکم صاحب مسندی
حضرت مریم زمانی بانئی هذا المکان کز عنایات الهی ساخته جای هدی
از پئی تاریخ ختم این بنای چون بهشت فکر می کردم که آخر یافتم خوش مسجدی
۱۰۲۰

Allah is the Greatest:

1. Allah is to be thanked through whose grace under the auspices of Her Majesty this building was completed.

2. The founder of this edifice, the place of salvation, is the Queen Maryam Zamani.

3. For the date of the completion of this edifice, which resembles the Paradise, I was thinking when at last I found it in the words 'What a fine mosque ! (1020 A.H.).[20] (Pl. XLVIII b.)

20. The inscriptions have been first recorded incompletely by S.M. Latif in his *Lahore: its history, archaeological remains and antiquities* (Lahore, 1892), pp. 132-33. The literal translation is also his with some modifications by the present writer.

The second inscription records the date of the completion of the edifice in the chronogram خوش مسجدی (khush Masjidi—What a fine mosque!) in the second hemistich of the last line. The inscription on the facade of the prayer chamber is also executed in stucco in bold relief and painted in red. It records Quranic verse and the name of the emperor Jahangir:-

ان اول بیت وضع للناس للذی ببکه مبر کا وهدی للعلمین
نورالدین محمد جهانگیر بادشاه غازی

Among the Quranic inscriptions, the most prominent is on the *mehrab* of the mosque. The *tughra* gives the usual *ayat al-Kursi*, while at the crown of the arched-niche is the *Kalima*. Similarly, all the facades of the niches in other compartments have been decorated with inscriptions of verses from the Qur'an. There is only one saying of the Prophet painted on the facade of the second left arch.

Fresco Painting: *The technique*

The fresco painting is created on the base of lime plaster prepared carefully after racking out the joints of masonry. The following is a description of the process:

(*a*) *The Ground* :

The wall surface on which the treatment of fresco painting is to be applied is first cleaned and racked with hard brush not only to remove dust but also to roughen the surface so that the thick layer of lime plaster may adhere to it. A layer of coarse lime mortar in the ratio of 3:2 (fine: course) strengthened with slaked lime in the ratio of 10:1 is fixed over the wall. The thickness of the layer is normally from half to one inch. The thick layer is allowed to remain on the wall for a day. If on the next day it is too dry to be treated further, it is moistened with water and then tapped with the edge of a small piece of wood of triangular shape. The process gives it a rough surface. Normally, the plaster is cured for fifteen days so that its initial setting is complete. Then a thin layer of fine kankar lime is applied over it. The technical term in the local language for it is '*dugha*' (دوغه). Over this '*dugha*' is given another layer of fine white lime cream. This layer is of about 1/16 of an inch thickness. If the painting is to be highly finished, the last layer which is actually the ground on which the painting is executed, is carefully smoothed with a small flat iron trovel. The smooth surface is now ready to sketch the design.



Maryam Zamani Mosque, Lahore : Fresco decoration in the interior of prayer chamber.

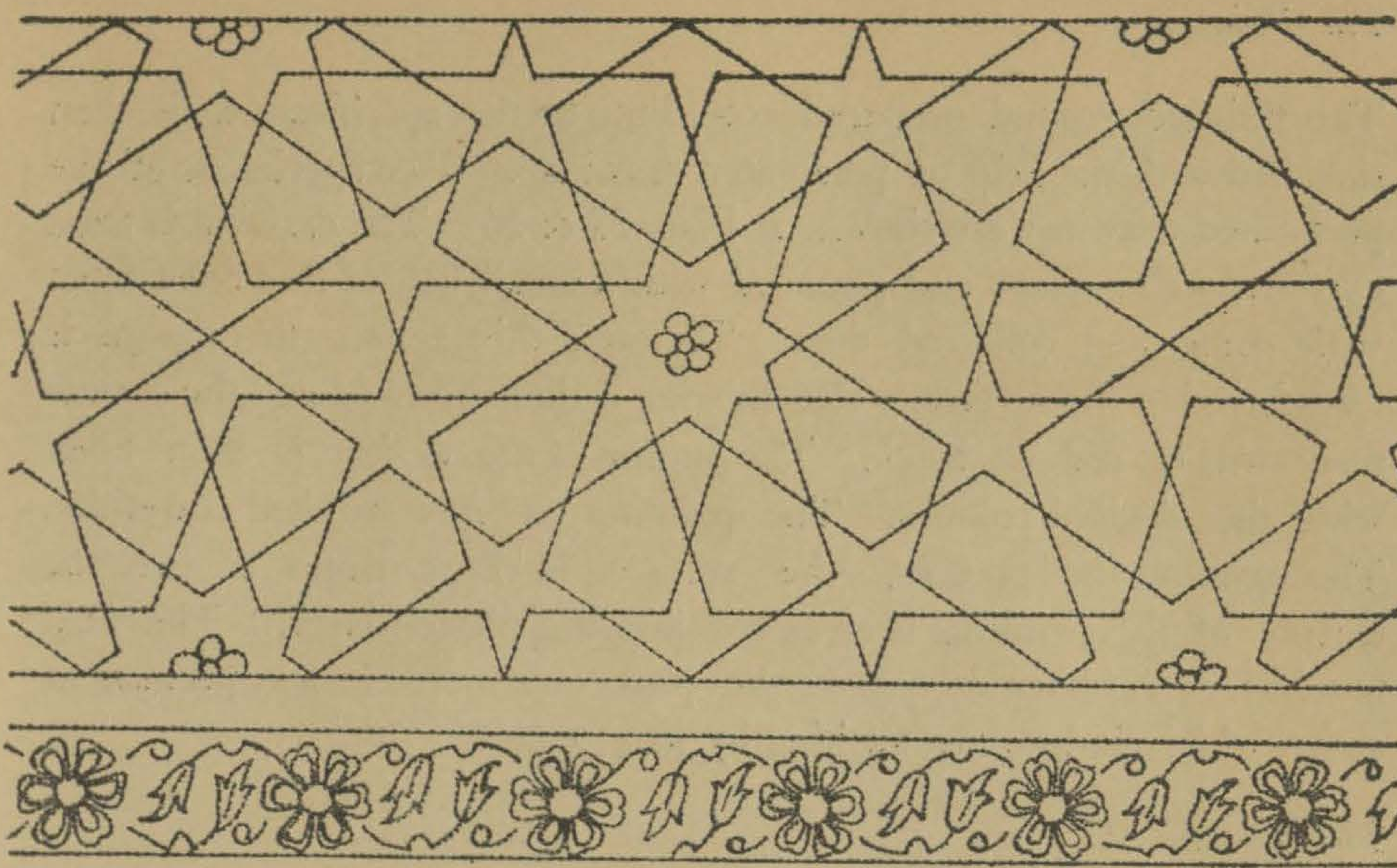


Fig. 25. Maryam Zamani Mosque, Lahore : Perforated outline of a design.

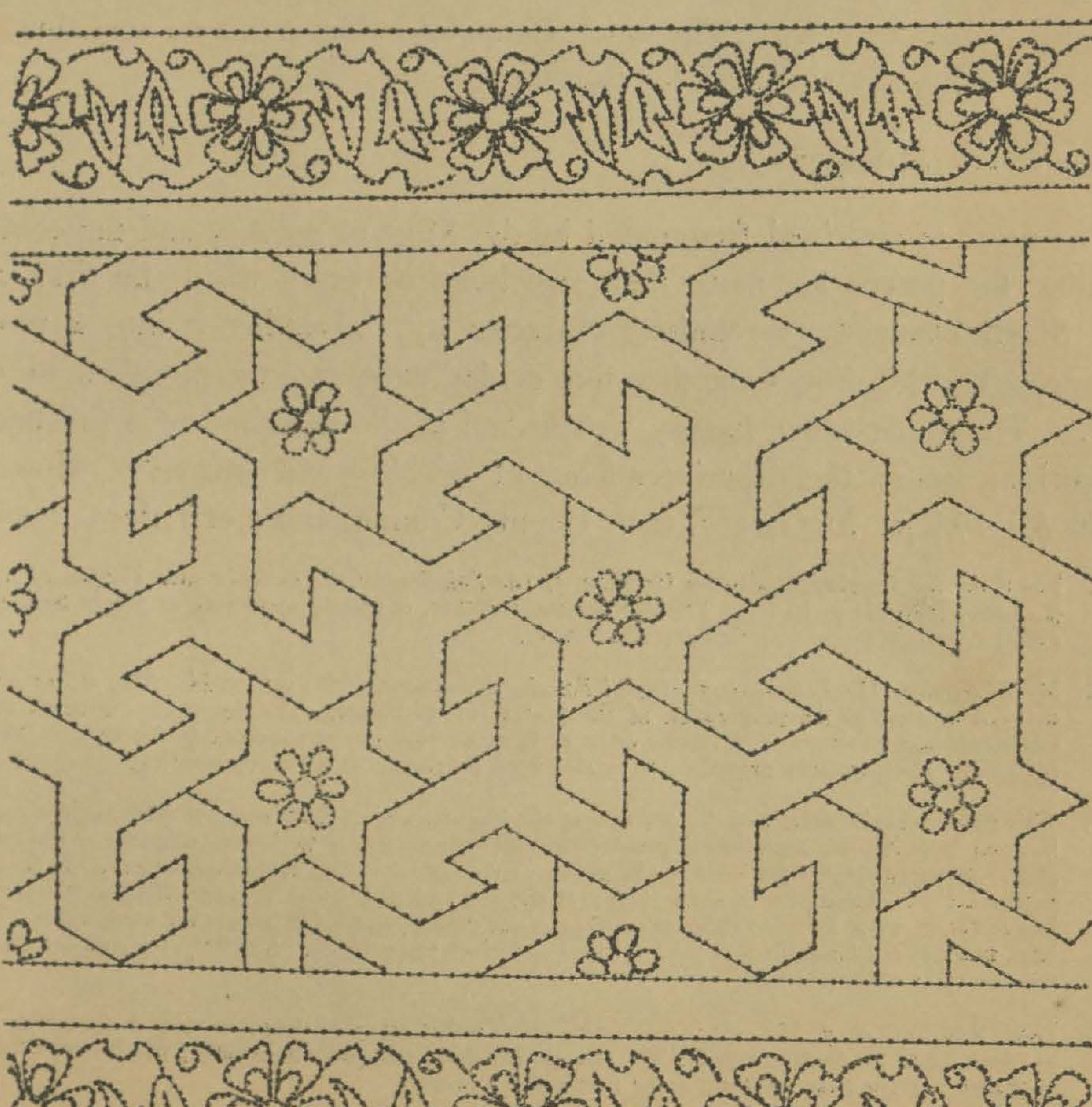


Fig. 26. Maryam Zamani Mosque, Lahore : Perforated outline of a design.

(*b*) *The Painting* :

The finished ground prepared according to the specifications is then sketched with the help of perforated drawings. Two specimens of the perforated drawings are shown. at Figs. 25 & 26. The drawing is fixed over the wall surface and pounced with a small bag of fine linen filled with some fine coloured dust. Through this action, the design is transferred to the surface. The drawing is then removed and the outline re-drawn in red or black. The outline of the design is then filled with the desired colours. The painting is now rubbed carefully. Throughout the process, the surface is kept damp so that the texture of the painting is absorbed into the plaster layer. The final touches of rubbing etc., give the picture a more or less permanent sheen which withstands washing by water etc.[21]

(*c*) *The Pigments* :

The Moghul artists normally used pure mineral colours for painting.[22] The required mineral was ground with rice or linseed—with a little course molasses (*gur*). The thick compound thus prepared was then mixed with water and used for painting.[23]

Repairs to the Mosque

The mosque remained frequented by the Moghul nobility and the common man alike for prayer for more than two hundred years when the Sikh ruler Ranjit Singh changed its religious character by converting it into a powder magazine. The Muslims were therefore denied entry into the premises to offer prayer. The gun-powder factory established in the mosque had a full-fledged staff working under the superintendence of Jawahar Mal Mistri[24]. However, in 1850 A.D. Major McGregor, then Deputy Commissioner of Lahore, restored

21. For a similar description, also *see* Griffiths, J. *The Paintings of the Buddhist cave Temples of Ajanta* (London, 1896-97) p. 18 *sqq*. The description, however, is mainly applicable to Ajanta frescos and differs at certain places with that described above.

22. Moti Chandra, *The Technique of Mughal Painting* (Lucknow, 1949) pp. 18-34. The writer gives a detailed account of the preparation of the process of pigments. The description is based on the experience and practices of a Hindu artist of Benares who was well-versed in the style of Moghul painting. The pigments described were also used by the artist of fresco painting.

23. This note gives the details of the practice of the Department of Archaeology. The modern restorer however finds it a tire-some job to prepare the pigments according to the old technique as the mechanically prepared colours available in the market, are good enough to serve the purpose. In fact, our experience has shown that it is the blend of the old and new which is more effective and durable. For instance, while for the shades of green, red and yellow, oxide dry colours are used, indigo (Robin ultra-marine) and lamp black is used for blue and black respectively. Similarly, for a darker shade of red, the same old *hurmuchi* is applied.

24. Latif, S.M., *op. cit.* p. 131. It is interesting to note that many of the mosques of Lahore were used by these Sikhs for such purposes. The famous Badshahi mosque, for instance, was converted into a magazine, and the Pearl Mosque in the Fort into a treasury.



Maryam Zamani Mosque, Lahore: General view of the prayer chamber. In the background is the Masjidi Gate of the Lahore Fort

Plate XLVI



a. Maryam Zamani Mosque, Lahore: Persian Inscription on the southern entrance

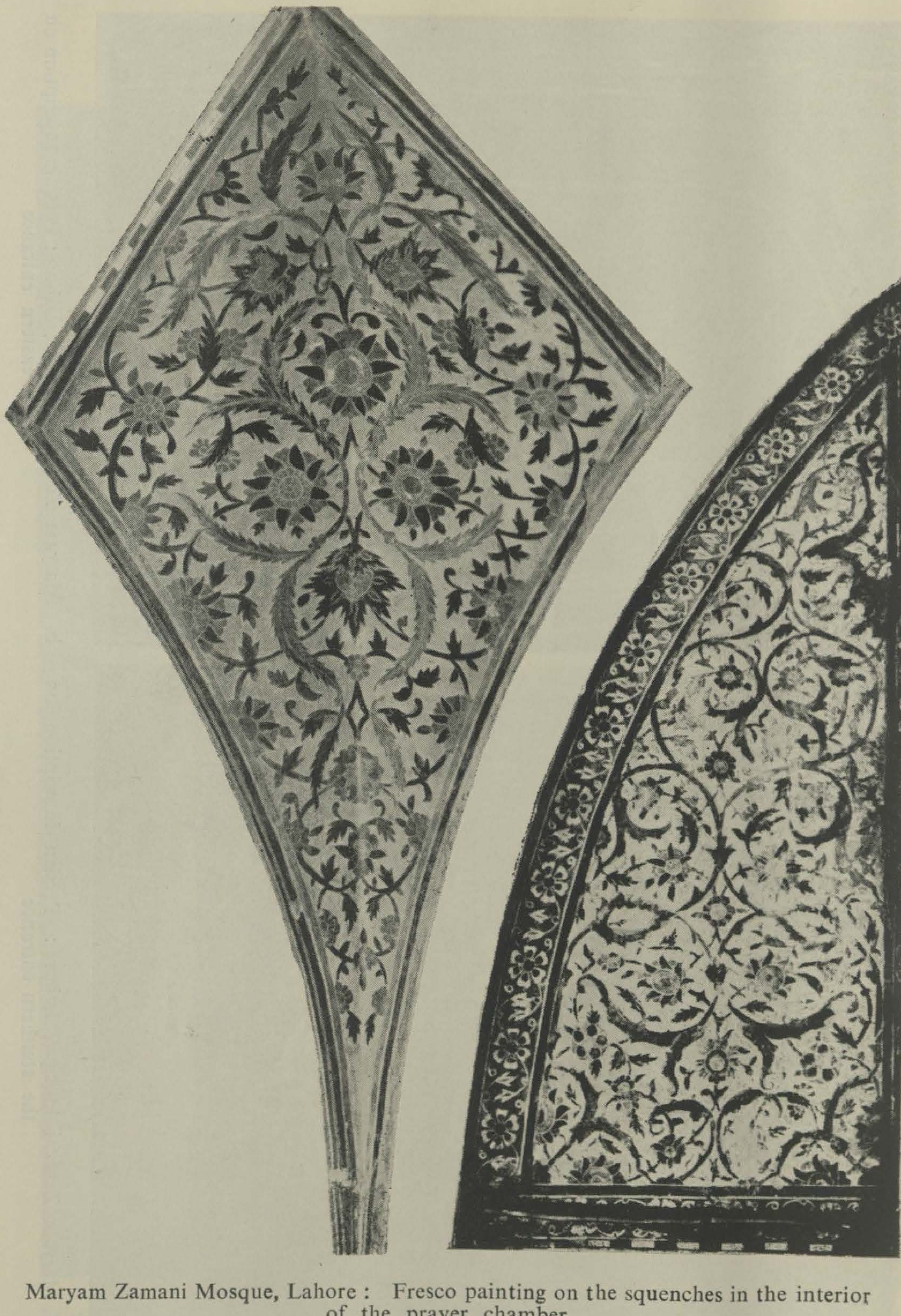


b. Maryam Zamani Mosque, Lahore: Persian Inscription on the eastern entrance

Plate XLVIII



Maryam Zamani Mosque, Lahore: The facade and the north-western portion of the prayer chamber.



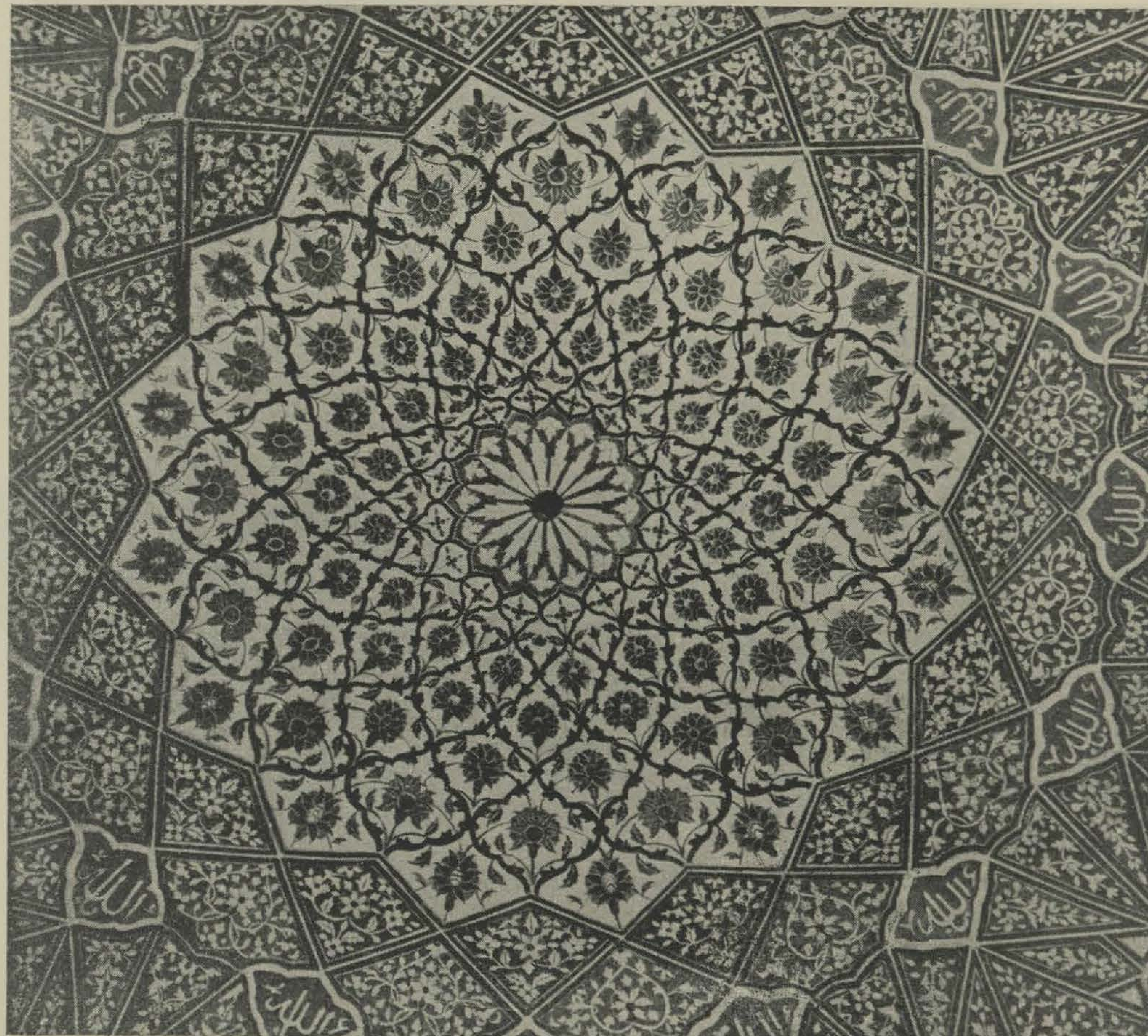
Maryam Zamani Mosque, Lahore : Fresco painting on the squenches in the interior of the prayer chamber



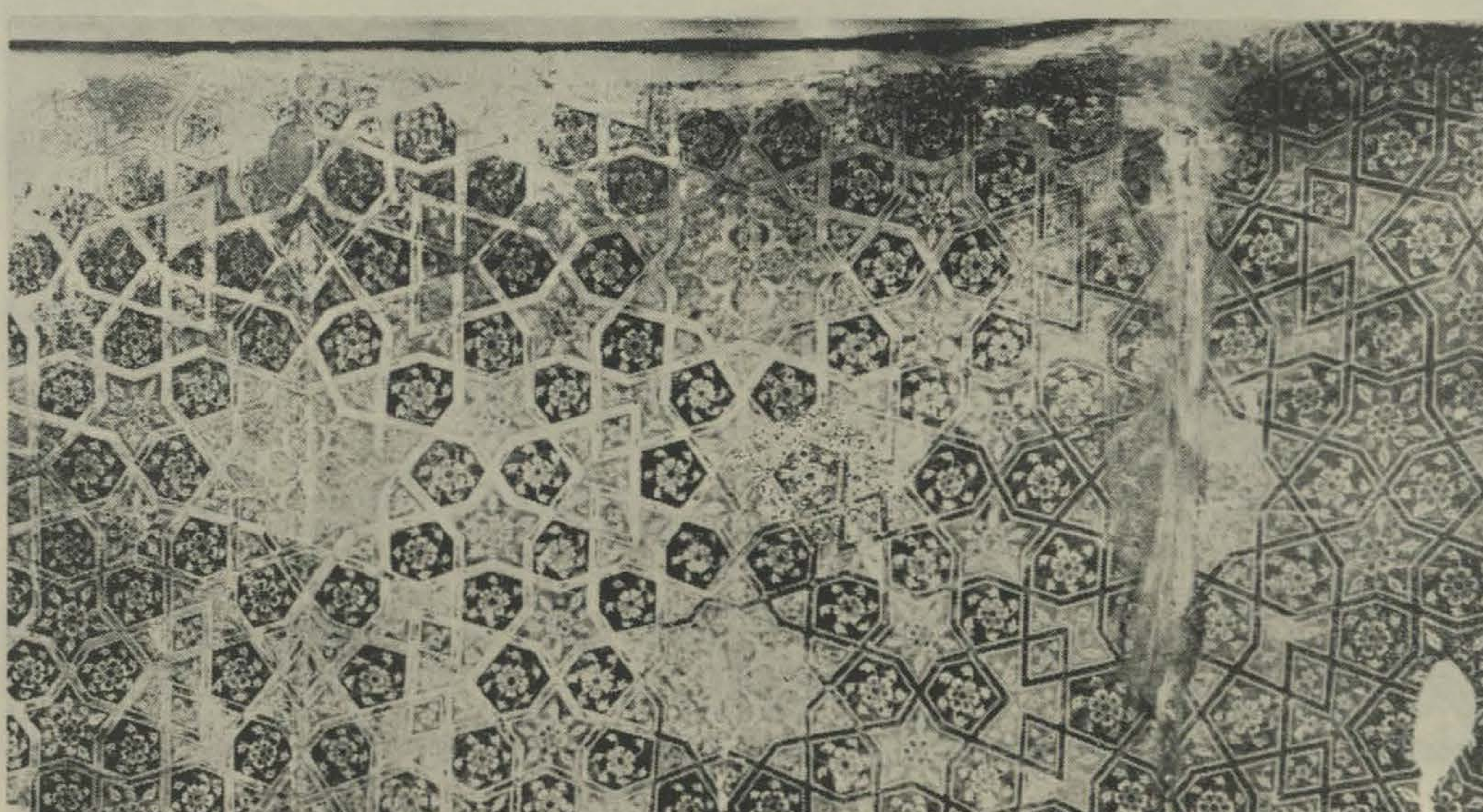
a. Maryam Zamani Mosque, Lahore : Restoration of fresco in progress.



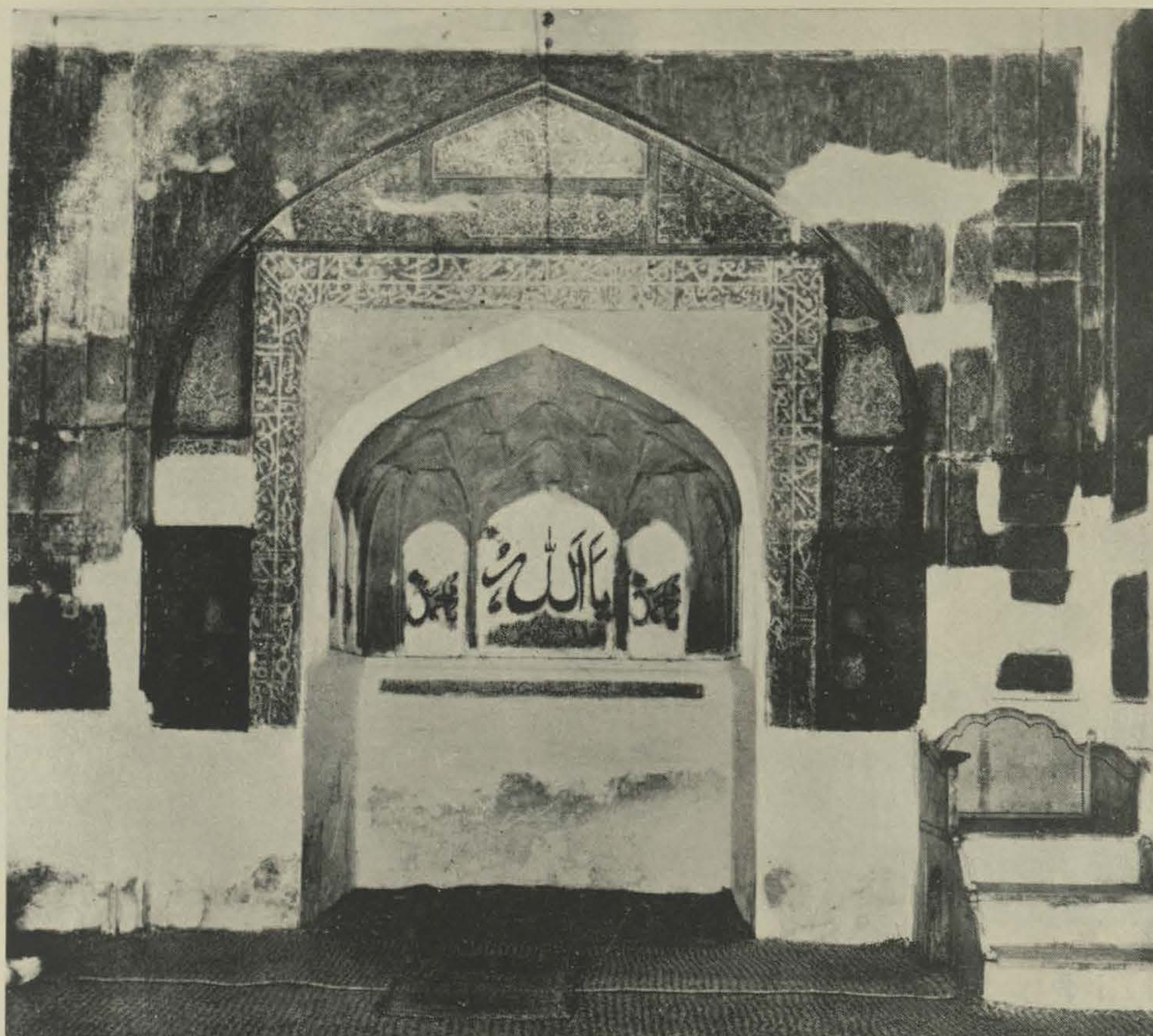
b. Maryam Zamani Mosque, Lahore : A floral border in fresco.



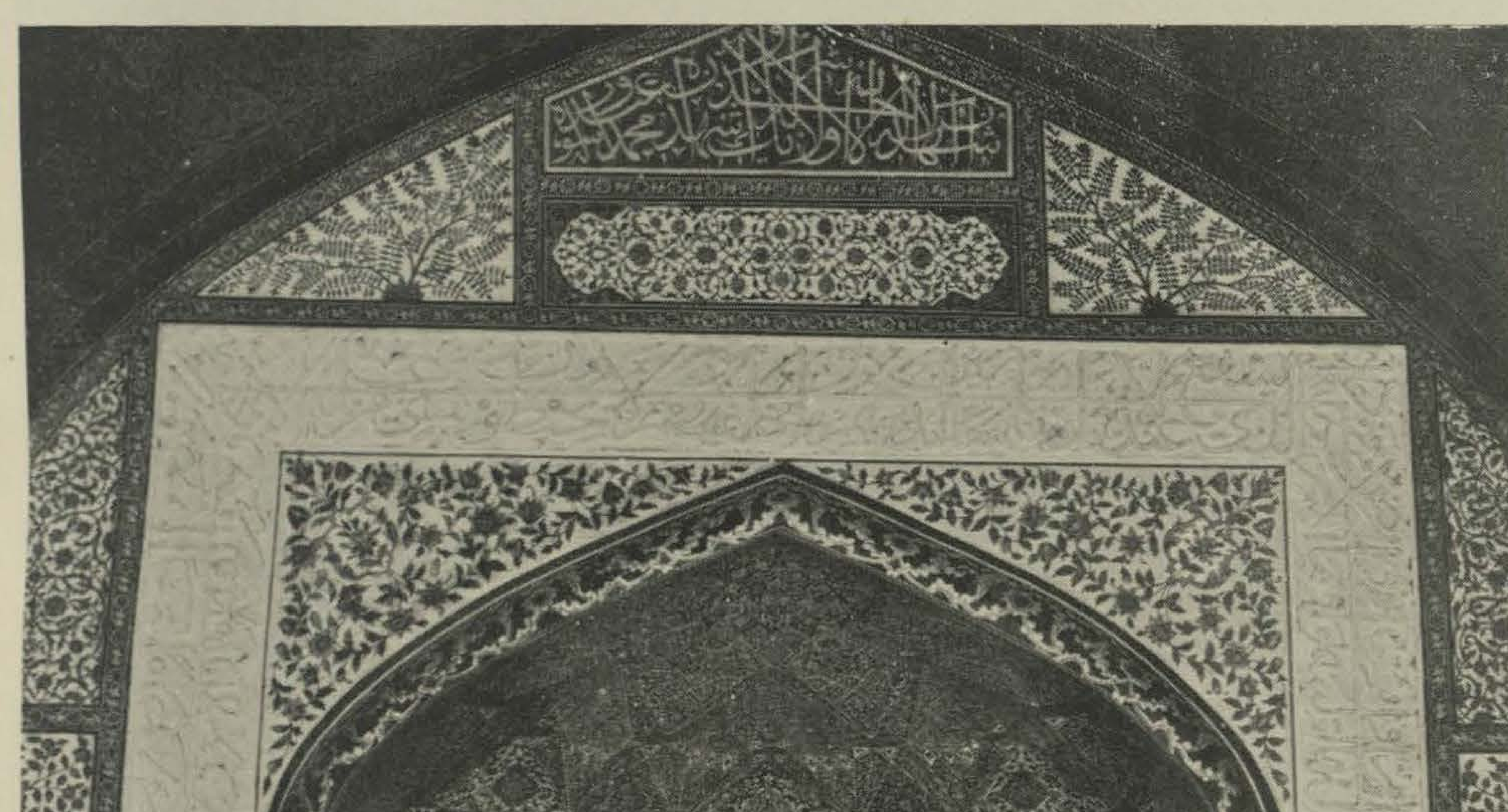
a. Maryam Zamani Mosque, Lahore: Fresco painting after restoration



b. Maryam Zamani Mosque, Lahore: Fresco painting before restoration

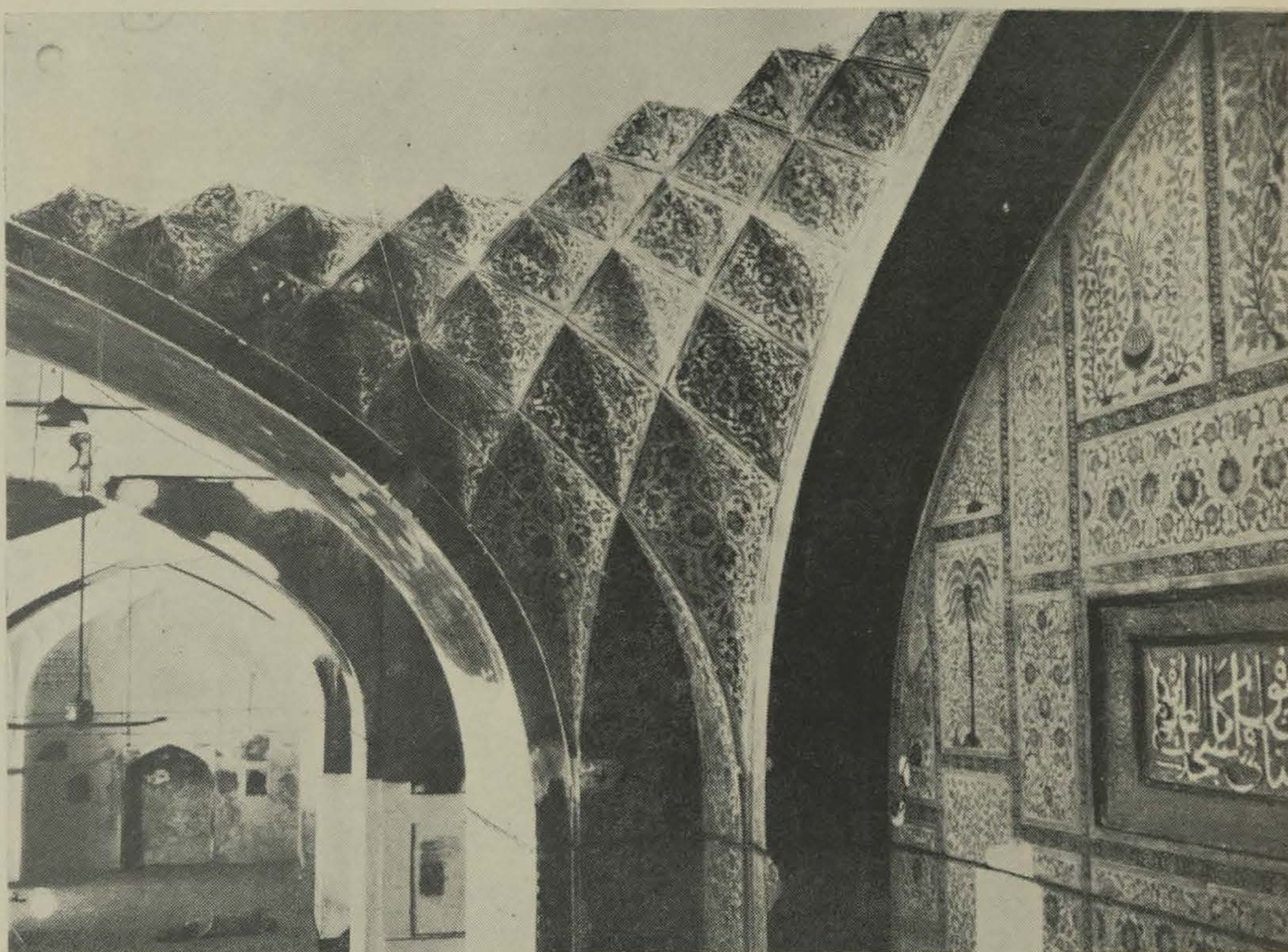


a. Maryam Zamani Mosque, Lahore: The central *Mehrab* before restoration



b. Maryam Zamani Mosque, Lahore: The same after restoration

Plate LIII



a. Maryam Zamani Mosque, Lahore: Fresco painting before restoration



b. Maryam Zamani Mosque, Lahore : Fresco painting after restoration

the mosque to the Muslims, alongwith the shops and houses attached to it[25]. At the time of the transfer, the condition of the mosque was deplorable and required immediate repair which was carried out by the subscriptions contributed by local Muslims[26]. Unfortunately, we are not aware of the details of these repairs, but it may be assumed that the white-wash concealing the frescos here and there in the interior of the paryer chamber, the re-paving of the courtyard with modern bricks, and other extensive repairs to the ablution tank and to the eastern gateway are some of these repairs. Though not according to archaeological principles, these and the later repairs nevertheless strengthened the structure of the mosque. Later on, the mosque was provided with electricity and elaborate arrangements were carried out for electric fittings.

Restoration of Fresco Painting :

After more than a century, some enlightened members of the Anjuman-i-Hanafiya-e-Qadiriya, the organization responsible for the maintenance of the mosque, considered the desirability of renovating the fresco work which had undergone decay and defacement and, at places, was concealed under layers of whitewash. The organization raised a fund of Rs. 50,000/- for the purpose through subscriptions and donations. It was fortunate that the Committee approached the Department of Archaeology for the execution of the work and the Department accepted reponsibility for technical assistance and advice. No contribution was, however, made by the Government as the mounment was not at that time, protected under the Ancient Monuments Preservation Act of 1904.[27]

The work of the restoration was started in 1959 under the supervision of the West Pakistan Circle of the Department of Archaeology.[28] For the purpose, the monument was studied by the staff of the Circle and both the structure as well as the fresco decoration were examined in order to prepare a detailed conservation note and estimate. During the process of the this examination,

25. It was customary for the builder of a mosque to create a *waqf* of some property to finance its recurring expenditure. There are numerous examples of such *wafqs* in the sub-continent.

26. Latif, S.M. *op. cit.* p. 132. It was on this account that the edifice was sometimes called 'Barud Khane wali Masjid'. Prof. Baqir relates a curious story about the transfer of this mosque to the Muslims. He says: "The British got it vacated but Qazi Faqihud Din, the Darogh-e-Nuzul, registered it as "Crown Property". The author however does not quote authority for his statement. *See*, Baqir, Muhammad, *Lahore : Past and Present* (Lahore, 1952) p. 342.

27. The monument was declared protected in 1963 *vide* Government of Pakistan Notification No. F. 8-40/61-A & M, dated the 30th April, 1963, and was placed under category II(c) *i.e.*, "owned privately but maintained by the owners and Government jointly." *c.f.* Marshall, Sir John, *Conservation Manual* (Calcutta, 1923) p. 2.

28. It must be placed on record here that the excellence of the work achieved was mainly due to the personal interest of the then Circle Superintendent, Khan Wali Ullah Khan, especially during its earlier phase which set a tradition of meticulous accuracy, both in form and colour, in the restoration of fresco decoration. The tradition has been followed since.

it was found that the deterioration of the decoration was not entirely due to human neglect and thoughtless repair. It was, to a great extent, due to injurious climatic action. Due to the passage of time, the structure of the domes and ceiling covered with lime plaster had developed minute cracks which caused percolation of rain water and dampness in the plaster. It was therefore necessary to fill up the cracks and other joints so that the percolation of water into the core of masonry could be stopped.

The next task was a thorough study of the fresco paintings. The deterioration was found to such an extent that to revive the past glory of the mosque, the work was to be restored at many places. Plates LIb, LIIa and LIIIa give an idea of the condition of these frescos either due to repairs or atmospheric action. At many places, the frescos were found hidden beneath the layers of lime wash, while at other places signs of deterioration due to unfavourable weather were noticed. The whole task was therefore divided into the following items:-

(*a*) Underpinning of cracks in the structure.
(*b*) Peeling off the layers of white-wash of fresco decoration.
(*c*) Removing the unsightly and damaging electric fittings.
(*d*) Tracing the decorative designs on papers.
(*e*) Re-touching the less effected frescos.
(*f*) Restoring the highly deteriorated sections.

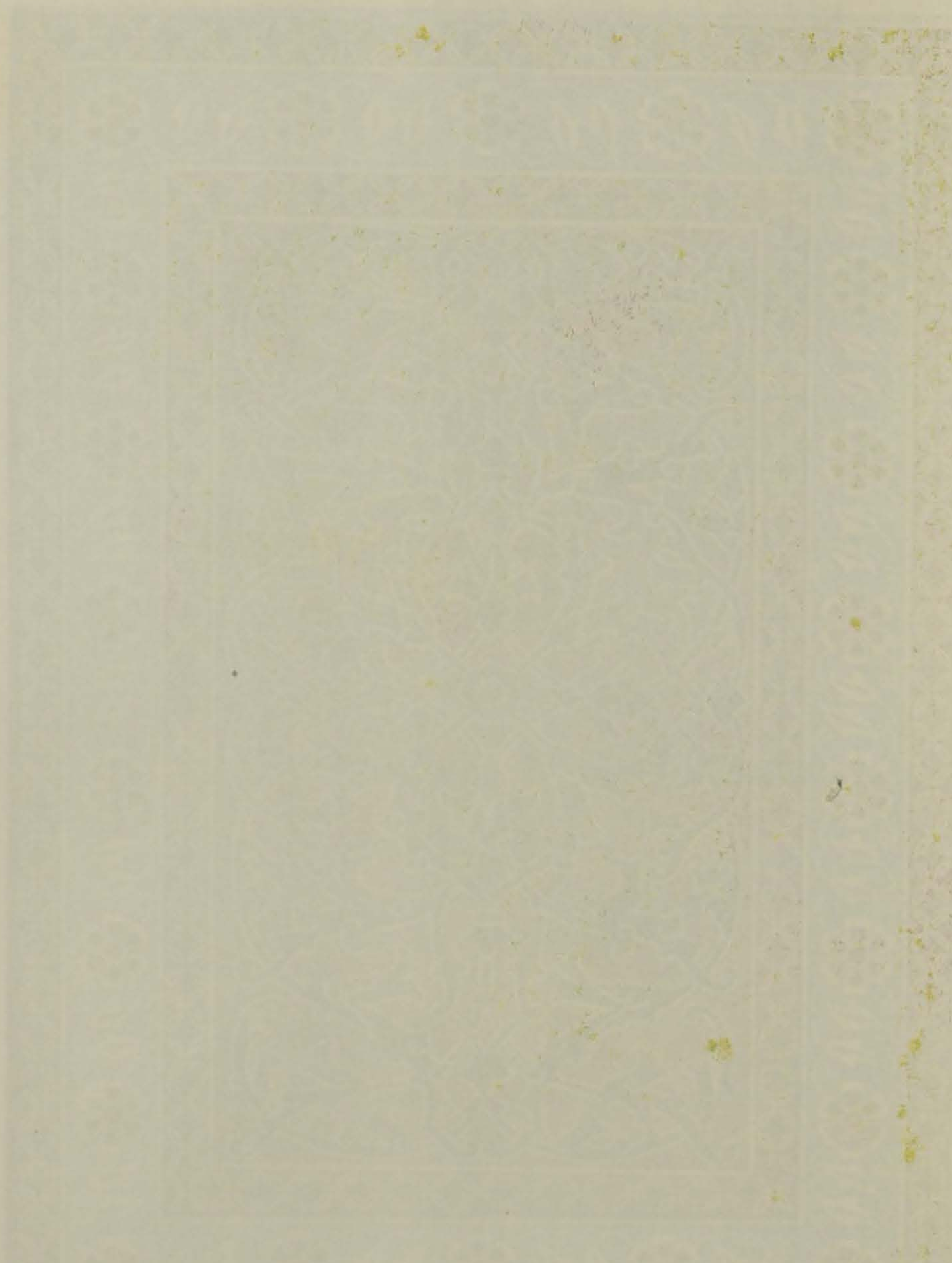
At the outset, it was realized that the tradition of fresco painting according to the traditional process had been almost forgotten and craftsmen proficient in the art were not readily available. The craftsmen employed for the job were first entrusted with preparing the tracing of all the designs and motifs drawn on the surface of the prayer chamber. The tracings were used, after perforation, to draw designs on the freshly prepared base for restoration. In 1962-63, the mosque was declared protected by the Government of Pakistan. It was then decided to make an annual provision of Rs. 10,000/- for the continuation of the work. Since then, restoration of the frescos on the central and the other two bays has been completed. The task carried out could be judged from Pls. LI a, LII b, LIII b and colour Plates I-III. However, there is still much work to be completed to enliven the past glory of the Mosque.

Plate III



Maryam Zamani Mosque, Lahore: Fresco decoration in the interior of prayer chamber.

Plate III



THE NECROPOLIS OF THE BEGLARS AT MIYAN WAHYUN, HYDERABAD (Sind)*

by

(late) M. Hamid Ali

and

Ahmad Nabi Khan

[Plates LIV - LX]

About 38 miles north-east of Hyderabad on the Tando Allahyar-Tando Adam Road, in a small village now called Miyan Wahyun, is located a necropolis where are lying buried the illustrious members of the Beglars (Pl. LIVa). Its ancient name, as recorded by early writers such as Idraki[1] and Qane, was Turki[2]. The necropolis now possesses, besides others, 12 stray graves with stone cenotaphs having Arabic and Persian inscriptions bearing historical information; three *chatris* now in a ruinous condition; and the remains of a tower called

*M. Hamid Ali, formerly Assistant Commissioner of Income Tax, died of heart failure on 16th December 1971. We mourn his untimely death as in him we have lost a scholar-connoisseur who was keenly interested in the art and archaeology of Pakistan. Due to his sheer enthusiasm for the subject, he had been able to accumulate an unrivalled collection of books and photographs of historic buildings of every nature located in Pakistan. His special interest was, however, in the Muslim epigraphy of Pakistan and he had made a special study of the subject. His enormous collection of photographs and estampages of inscriptions was indeed superb. He was planning to devote his time to study the collection after his retirement from Government service. Providence did not, however, permit him to fulfil has cherished desire. He died at the age of 55 while still in service. A few months before his death, he had started working on the inscriptions of the Beglar cemetry and had drafted notes on the subject. After his death, these notes were received from his son Mr. Tariq Ali, through my friend Mr. M.M. Beg, the learned Librarian of the Central Archaeological Library. These notes have been consulted while preparing this article. My sincere and grateful thanks are specially due to that great scholar, Sayyid Husam ud-Din Rashidi, who very kindly spared time to read the script of the article and suggested valuable points to solve some of the problems relating to the chronology of the Beglars and their inscriptions. His introduction to the *Chanesar Namah* (in Sindhi) has been of invaluable help while writing the first part of this article. I must thank Pir Sahib for his permission to do so. I am also to thank Dr. Nazimuddin Ahmed, T.I., formerly Director of Archaeology, Pakistan, for providing me necessary facilities and due encouragement to undertake this study. My thanks are also due to my colleague, Mr. M. Hidayatullah Siddiqi, Epigraphical Assistant, Department of Archaeology, who visited the necropolis twice to survey the graves and to prepare initial records of the text of the inscriptions. And last but not the least, I must thank Mr. M.M. Beg for his help in searching for necessary references for me [Ahmad Nabi Khan].

1. Idraki Beglari, *Beglar Namah* edited by Dr. N.B. Baluch (Hyderabad, 1971) p. 34, 81, etc.

2. Mir Ali Sher Qane, *Tuhfatal-Kiram*. Edited by Sayyid Husam ud-Din Rashidi, (Karachi, 1971) p. 201 Miyan Wahiyun was a patron saint of this period who was buried in the family graveyard of the Beglars under the orders of Khan Zaman. The tomb, a square domed structure, still exists (Pl. LIV b). The village where the cemetery is located is now named after this celebrity.

"Marg Munara". The inscriptions on at least nine graves, executed in superb calligraphy, record events connected with the local history of Sind or the persons buried there.

The Beglar family played an important role in the socio-political history of southern Sind during the rule of the Arghuns, Tarkhans and the early Moghuls. Their contribution was not confined to the battle-field, where they displayed fine qualities of gallantry, bravery and swordsmanship, but also extended to art and literature. Their courts were a rendezvous for poets, scholars, historians and literate who wrote not only panegyrics for their patrons, but also recorded history of their time. Idraki Beglari, for instance, is one of those whose two works *Masnavi Chanesar Namah*[3] and the *Beglar Namah*[4], provide much needed and detailed information about the Beglar family.

THE FAMILY OF THE BEGLARS

Sayyid Qasim Beglar, the founder, belonged to a respectable Sayyid family which traced its descent to the fourth pious Caliph Ali [5].

According to Idraki and Qane, Sayyid Qasim's forefathers originally lived at Tabrez. One of the ancestors, Syed Nazim al-Din 'Ali, migrated however to Samarqand and then to Khita in the territory of Turkistan. There they developed intimate relations with Arghuns. The relationship between the families was universally known so much so that they have at times been styled Arghuns by various authorities. In fact, in some of the inscriptions on their graves, they have been referred to as Arghun Beglar, or only Arghun.[6]

Amir Sayyid Qasim Beglar migrated to Sind in the reign of Shah Hasan Arghun (sometime after 928 A.H.[7]/1521 A.D. Due to the ancestral connections between the two families of Arghuns and Beglars at Samarqand and because Sayyid Qasim himself was a well-known general and experienced diplomat, Shah Hasan Arghun received him with great honour and granted Jahija in his

3. *Chanesar Namah*, a love story, was composed in 1010 A.H./1601 A.D. The text has been edited with an introduction by Pir Husam ud-Din Rashidi (Hyderabad 1956). The introduction gives a fairly detailed history of the Beglars in Sind.

4. *Beglar Namah*, written 1017 A.H./1608 A.D., is an important contemporary source on the history of the Beglars. The last chapter, added by the author in 1034 A.H./1624 A.D. completes the account of the successors of Qasim Khan Zaman.

5. See *Beglar Namah* pp. 25-26 for genealogy. Mir Ali Sher Qane mainly copies from Idraki *op. cit.* p.199. Sayyid Rashidi has built up an exhaustive genealogical table from these sources. See *op. cit.* App. facing p. 199.

6. *Ibid.*

7. No detailed account of the family of the Beglars is available at one place. The main source, however, is the *Beglar Namah* while some details are also available in *Tarikh-i-Tahiri*, *Chanesar Namah*, *Tuhfat al Kiram*, *Maqalat al Shuara*, etc.

jagir[8]. He married the daughter of a Bhatti chieftain, Rana Katra Wairsi. He served the Arghun ruler for more than twenty five years with devotion and became his most trustworthy courtier. During the conflict between the Arghuns and the Moghul emperor Humayun, Qasim played an important role and led an Arghun army to check the Moghul forces. According to the details recorded by Idraki and Ali Sher Qane, Amir Qasim was killed during this encounter and his dead body was handed over to Rana Wairsi, ruler of Amarkot, to be buried in the graveyard at Turki[9].

It was however the son of Amir Qasim, Shah Abul Qasim Khan Zaman,[10] who played the more important role in the socio-political affairs of Sind during the reigns of Shah Hasan Arghun and, later, of the early Tarkhans. According to Idraki and Mir Ali Sher, Abul Qasim was born in 947 A.H./1540 A.D.[11] and after the death of his illustrious father, was brought up under the patronage of Shah Hasan.[12]

Abul Qasim Khan Zaman was 15 years old when Shah Hasan Arghun died in 962 A.H./1555 A.D. and Mirza Isa succeeded him as the first ruler of the Tarkhan dynasty. Khan Zaman joined the service of the new ruler and soon became one of the most influential men at the Tarkhan court. After the death of Mirza Isa, a war of succession ensued between his two sons Jan Baba and Baqi Beg, in which Khan Zaman supported the cause of Jan Baba and fought many battles on his behalf. Later on, however, a compromise was arrived at and Mirza Baqi Beg succeeded to the throne[13]. By then, the position of Khan Zaman as a capable general and resourceful administrator had been established. Mirza Baqi Beg, therefore, had to win over his favour. He invited Khan Zaman to enter his service and granted him the *Jagir* of Nasrpur[14].

8. Idraki *op. cit.* p. 28; Qane *op. cit.* p. 525. It has been identified by Sayyid Husam ud-Din Rashidi with an old place located at about 8 *kuruh* from Hala Kindi where the tomb of Shaikh Tahir *alias* Bilal Udara is located. See also *Tuhfat al Kiram*, *op. cit.* p. 201 n., 2; *Meqalat al Shua'ra*, *op. cit.* p. 215 n.1

9. Rana Wairsi, then ruler of Amarkot, had matrimonial relations with Shah Qasim as the latter had married the daughter of the Rana's sister c.f. Idraki, *Beglar Namah* p. 34. The date of his death, however, is made very confusing by the calligrapher of the cenotaph on his grave.

10. This was obviously the title of Shah Qasim but no contemporary or later authority mentions the time or the authority who bestowed this title upon him. It is interesting to observe that the Beglars were very fond of naming their children Qasim, as we find at least four great members of the family with this name with slight variation.

11. Idraki *op. cit.* p.31; Qane, *op. cit.*

12. Idraki narrates in detail the circumstances which were responsible for this favour. See *op. cit.* pp. 38-9.

13. Idraki records a detailed account of these encounters in which the contribution of Khan Zaman was substantial.

14. *Ibid* p. 170.

The year 999 A.H./1590 A.D. witnessed the Moghul army invading the Tarkhan territories in southern Sind under the command of Mirza Abd al-Rahim Khan Khanan. During these catastrophic days, which saw the end of the independent rule of the Tarkhans, Khan Zaman played an important role in averting the danger and participated in various encounters against the Moghul forces. His acts of resourcefulness impressed Khan Khanan very much and when Khan Zaman visited the imperial court along with Jani Beg, he was received with royal favour. It was on the recommendation of Khan Khanan that Khan Zaman was made responsible for the administration of Thatta and its environs with Amir Khusrau Khan Charkas.[15]

Contemporary, as well as later, authorities on the local history of Sind have recorded the achievements of Khan Zaman not only as a great general and a capable administrator but also as a patron of art and letters. During the long period of his authority, his main concern was to do as much as possible for the welfare of his poeple. It was through his constant endeavours that the *ta'alluqa* of Nasrpur, the headquarters of the Beglars, became prosperous and one of the most important places in southern Sind[16]. In 1011 A.H./1602 A.D. he built a fort near Kanbait and rehabilitated an old mosque there, appointed an Imam and established a *madrasa* with arrangements for free education and board and lodging for the students.[17] Among the other notable buildings constructed by him was a minaret erected on the grave of his favourite horse 'Margha' in his family graveyard.[18] Only its remains exist now. Idraki records the detail of this minaret and its adjacent buildings.

اکنون برمدفن آن اسپ ارجمند، مناره بلند، خاطر پسند شکوه الوند بموضع تورکی
کنار آب سانگره بنا فرمودند۔ آن را "مرگهه مناره" نام نهاده اند۔ عجب قصری
رفیع در غایت متانت و طرفه صرحی (؟) منیع در نهایت بلندی و خصانت واقع
شده است۔

15. Mir Ali Sher Qane, *op. cit.* p. 202, Mir Ma'sum, *Tarikh i-Ma'usumi* (Poona, 1938), pp. 250-57; Tahir Nisyani, *Tarikh-i-Tahiri* pp. 181-202. For a fuller account, see Abd al-Baqi Nihawandi *Ma'asir-i-Rahimi* (Calcutta 1910-35), vol. ii, pp. 345-77.

16. Idraki *op. cit.* pp. 220 sqq.

17. *Ibid* p. 261.

18. Ibid p. 139. The tradition of erecting minaret on the side of the graves of favourite animals is not uncommon among the eastern rulers. Hiran Minar at Sheikhupura, Lahore, built by the Emperor Jahangir on the grave of his favourite antelope, is one of the most prominent examples. *See* Ahmad Nabi Khan "Conservation of the Hiran Minar and Baradari at Sheikhupura, Lahore" in *Pakistan Archaeology* No. 6 (1969) p. 236 sqq. *See* also Ahmad Rabbani "Haran Munara" in *Armughan-e-Ilmi* (Lahore 1955) p. 190 *sqq.* where a description of such towers and their possible origin is given. A similar monument on the grave of a pet dog was erected at Bidar in southern India in 1087-88 A.H./1676-77 A.D. which is now called *kutte ki Qabr* (The tomb of the Dog) See G. Yazdani, *Bidar: its history and Monuments* (Oxford 1957) pp. 171-72.

Translation :

On the grave of that horse have erected a tall minaret at the village of Turki on the bank of 'Sangra'. It has been named "Margh Munara". It is a grand edifice known for its tall posture and strong fortress.

Khan Zaman died at the age of 72 in 1019 A.H./1610 A.D. and was buried in the family graveyard at Turki.[19]

Khan Zaman had matrimonial relations with the local chiefs and Rajput tribesmen and others, and had as many as eight sons and one daughter.[20] The eldest son, Amir Abul Qasim, is known to history as a most capable general and administrator. He was born in 969 A.H./1561 A.D. and was given the best education and training according to the local traditions of those days. Idraki provides certain interesting details and concludes that due to this careful training. Amir Abdul Qasim proved to be an unrivalled general.[21]

The most important event of his period was the conflict between Amir Abul Qasim and Mirza Ghazi Beg Tarkhan, son and successor of Mirza Jani Beg. Idraki is silent on this point but Tahir Nisyani gives a detailed account. A summary of it, outlining the causes and consequences, has been given in the Introduction to the *Chanesar Namah*.[22] As a result of this conflict. Amir Abul Qasim was blinded and treacherously imprisoned at Thatta in 1012 A.H./1603 A.D. under the orders of Ghazi Beg. After more than five years, he was released from the prison in 1017 A.H./1608 A./D. on the recommendation of Khusrau Charkas and the *Jagir* of Nasrpur was restored to him.[23] Adventurous Abul Qasim took advantage of this opportunity and fled to the Imperial court of Jahangir where

19. It is rather strange that no contemporary or later authority has recorded the date of the death of Khan Zaman. It is all the more strange that Idraki, who is the best contemporary source of our information and who wrote his *Beglar Namah* while he was in the service of Khan Zaman, did not mention the event though he added later a full chapter after about 1032 A.H./1622 A.D. giving details of his children (*c.f.* p. 261). The above date has been taken from the inscription carved on the cenotaph of his grave (see p. 144 *Supra*)

20. Idraki records the names of seven sons (p. 262 *sqq.*) Amir Abul Qasim Sultan (2) Mirza Qasim (3) Mir Shah Muqim Sultan (4) Mir Fateh Beg Sultan (5) Mir Yaran Beg (6) Mir Salim Shah and (7) Mir Murad Beg. Yusuf Mirak mentions the name of Jindai (Beg) as another son of Khan Zaman. *See Tarikh-i-Mazhar-i-Shah Jahani* (Hyderabad 1962) pp. 119 and 235. According to the author, he played an important role in the political events of the later Tarkhans. Similarly, Tahir Nisyani mentions the name of one of his daughters, Shah Begum who was married to Mirza Jani Beg Tarkhan and bore a son whose name was Abul Fath (*Tarikh-i-Tahiri* p. 151 and 245).

21. *op. cit.* p. 265 *sqq.*

22. Rashidi, *op. cit.* p. 44 sqq. *See* also *idem*, *Mirza Ghazi Beg Tarkhan aur Uski Bazm-i-Adab* (Karachi 1970), p. 34 *sqq.*

23. Tahir Nisyani gives a detailed account of the conflict and the imprisonment of Abul Qasim. See *op. cit.* p.235 *sqq.*

he lived for a long time. He died in 1036 A.H./1626 A.D. at the age of 67 years and was buried in the family graveyard at Miyan Wahyun.[24]

The celebrated scion of the Beglars was not only a brave and talented general, but also a lover of art and letters. Besides the patronage of poets and literateurs with whom his court abounded, he was himself a poet of considerable merit and used Beglar, as his *takhallus*. The specimens of his Persian verses by Idraki and others show his mastery over the art of the poetic muse. He was, at the same time, very fond of women and wine and loved to spend his leisure time in such assemblies.[25] Tahir Nisyani mentions a daughter who was married to his nephew, Mirza Abul Fath son of Mirza Jani Beg, and after his death was married to Mirza Ghazi Beg[26], while Idraki gives the list of his twelve sons.[27]

The other three sons of Khan Zaman were: Mirza Qasim Sultan (b. 986 A.H./1587 A.D. d. 1032 A.D./1622 A.D.), Mir Shah Muqim Sultan (b. 987 A.H./ 1578 A.D.) and Mir Fitri Beg Sultan (b. 988 A.H./1580. A.D.). Idraki records the long lists of their sons and grandsons and their activities in the politics of their time.[28]

Tahir Nisyani has given a detailed account of the political events of these years in which these members of the Beglar family played a significant role. In fact, the history of southern Sind during the earlier decades of the 11th century of Hijra is replete with the political maneouvering of the Beglars who were responsible, to a great extent, for many political acts especially during the later days of the rule of the Tarkhans.

It was not, however, only in political or military activities in which the contribution of the Beglars was significant. In time of peace, they contributed a great deal to the welfare of the local people. Their courts were a refuge for men of learning and arts. Their mark on the architectural activities of their time was also not small. The remains of the ruined fort near Nasrpur and more significantly the family graveyard are evidence of their interest in architecture.

24. The date has again been derived from the inscription recorded on the cenotaph of his grave. The relevant authorities have given confusing dates.

25. Tahir Nisyani, *op. cit.* pp. 233, 245, etc.

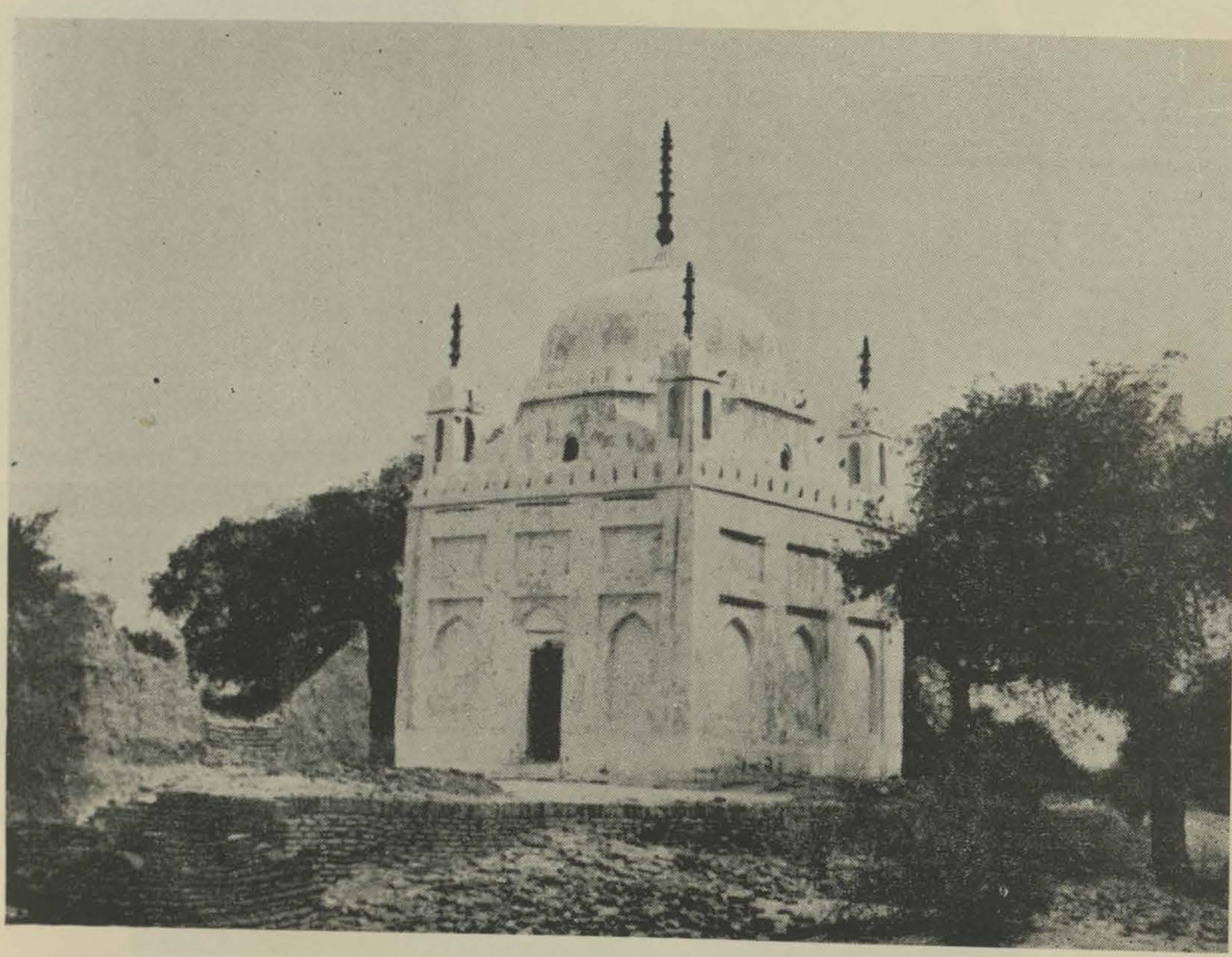
26. *Ibid* p. 288 *sqq.*

27. Idraki, *op. cit* p. 266. The names of these sons are: (1) Mir Fateh Khan (2) Mir Aziz Beg (3) Mir Murid Beg (4) Mir Bahadur Beg (5) Mir Syed Beg (6) Mir Sultan Beg (7) Mir Shah Beg (8) Mir Khushhai Beg (9) Bahadur Beg (10) Mujahid Beg (11) Amir Beg (12) Muhammad Beg.

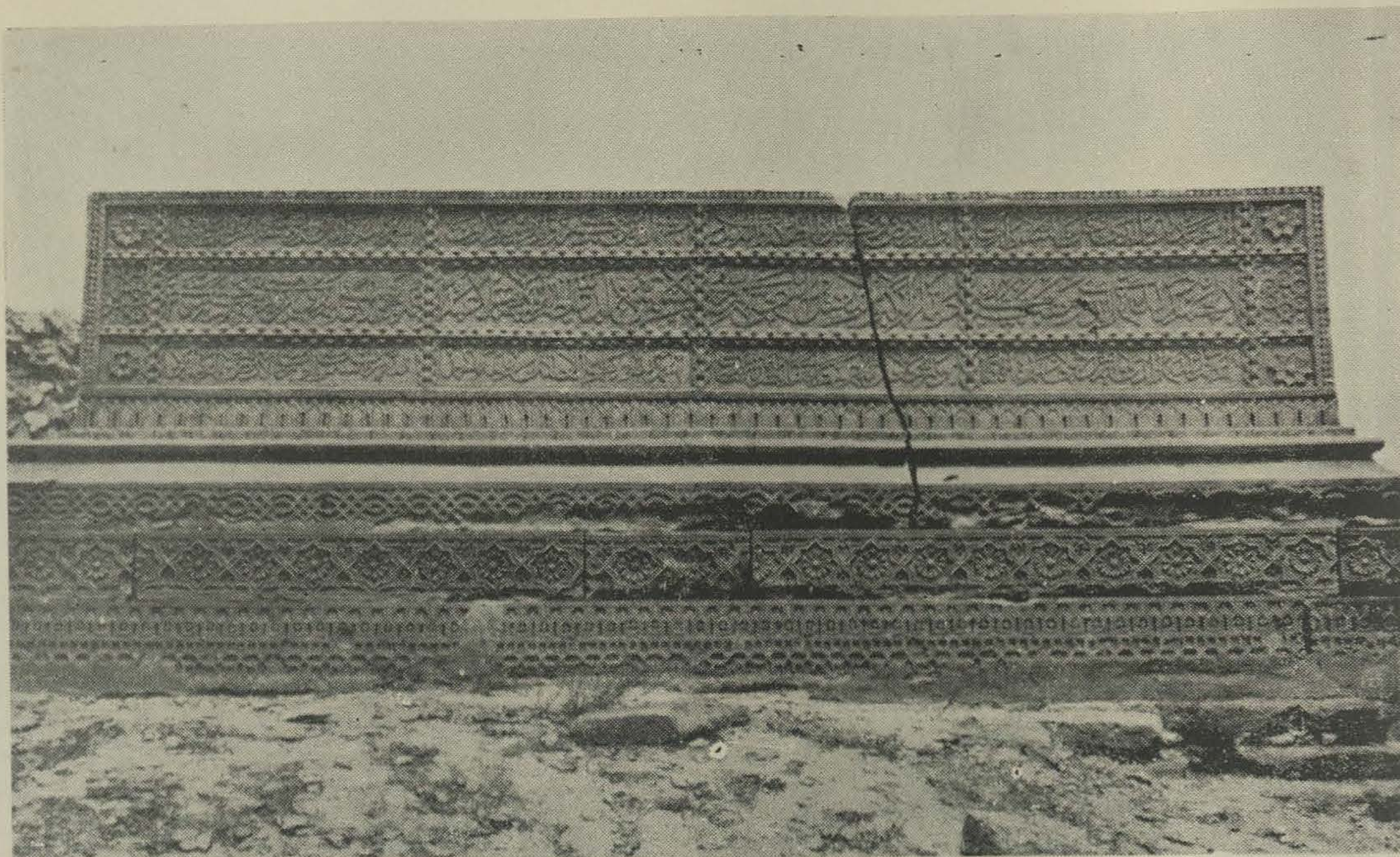
28. Idraki, *op. cit.* p. 266 *sqq.* In addition, the same authority names three more minor sons of Khan Zaman, which completes the list of his eight sons.



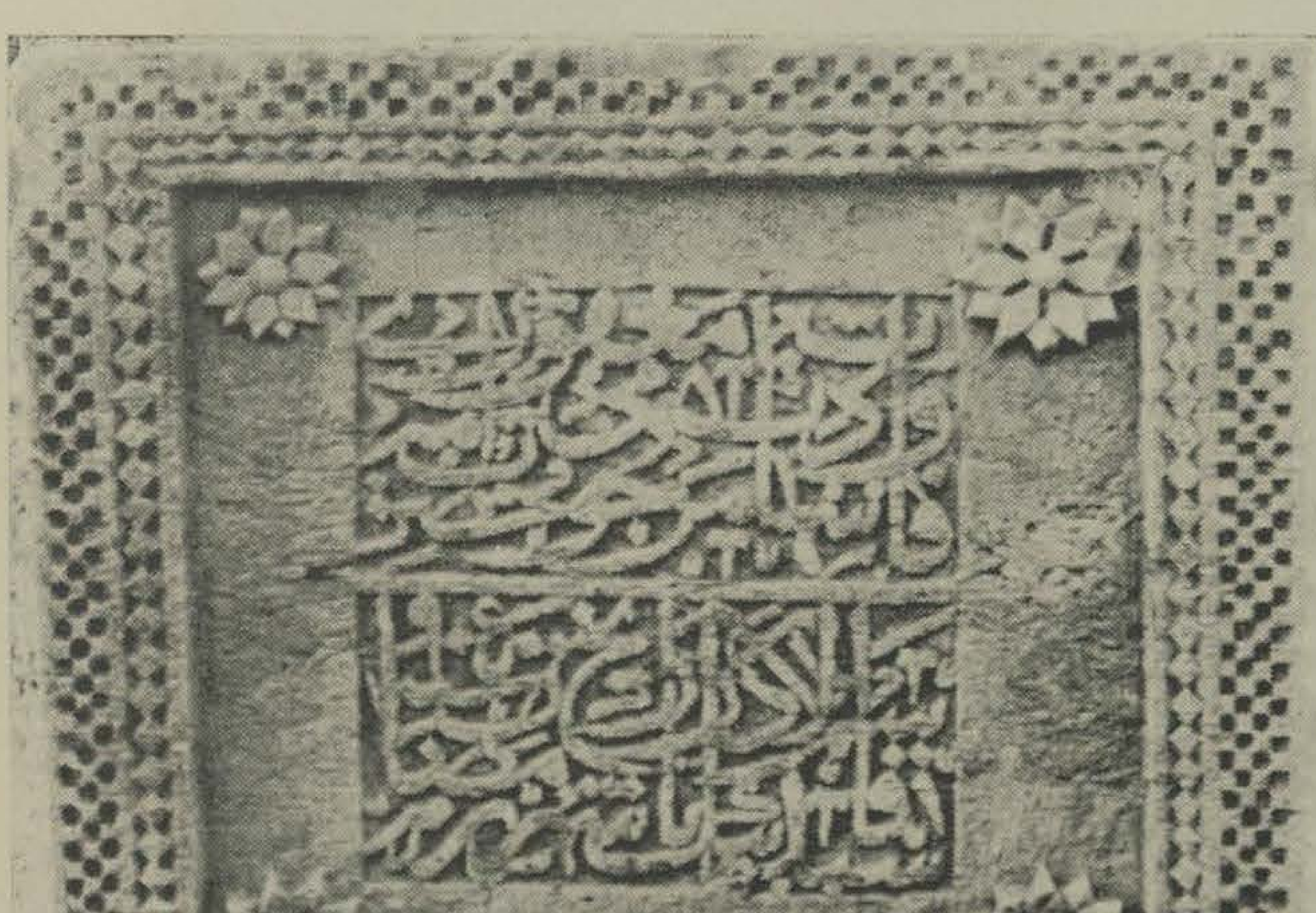
a. The Necropolis of the Beglars : General view.



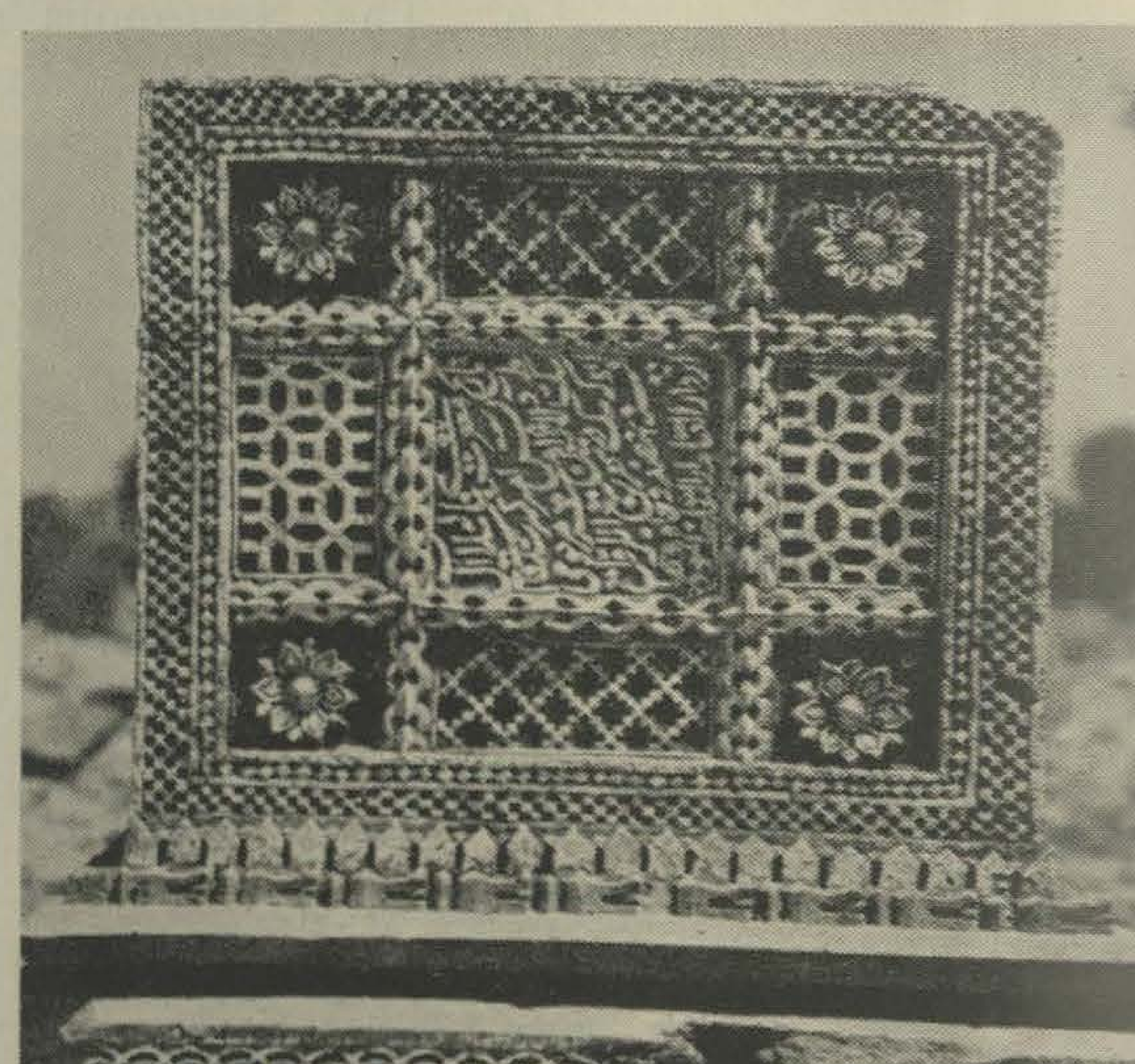
b. The tomb of the Saint Miyan Wahyun.



a. Cenotaph of the grave of Sayyid Qasim Beglar: View from East



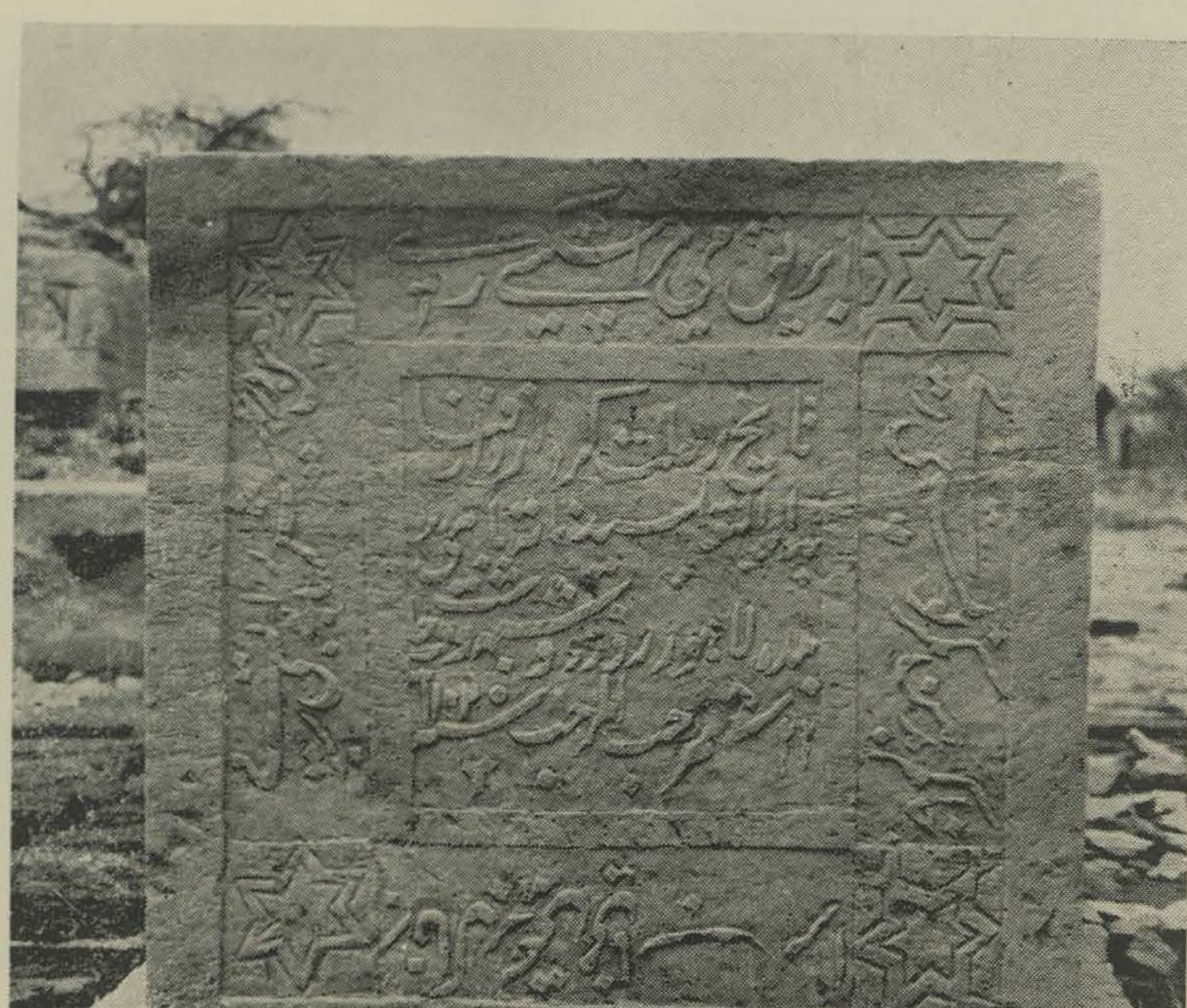
b. The same: view from South



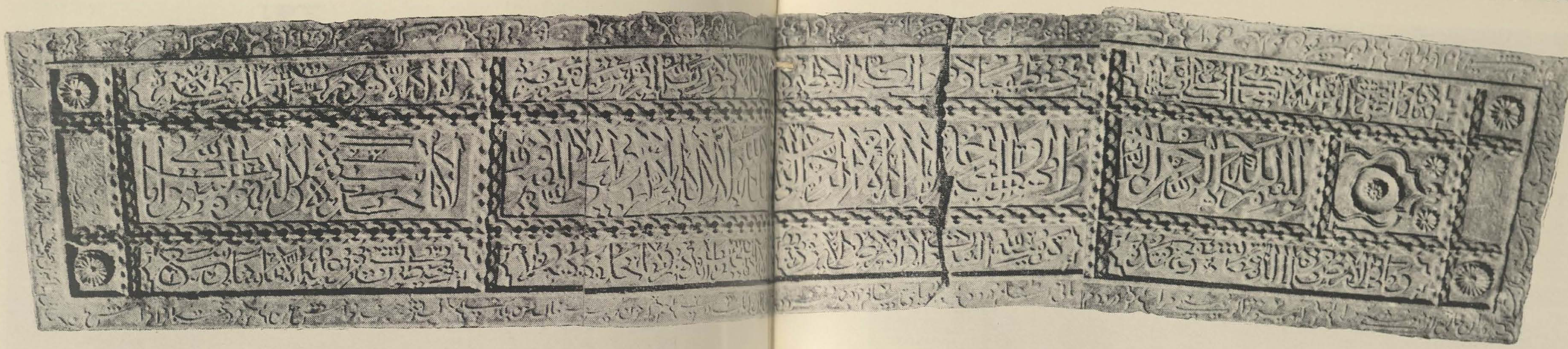
c. The same: view from North



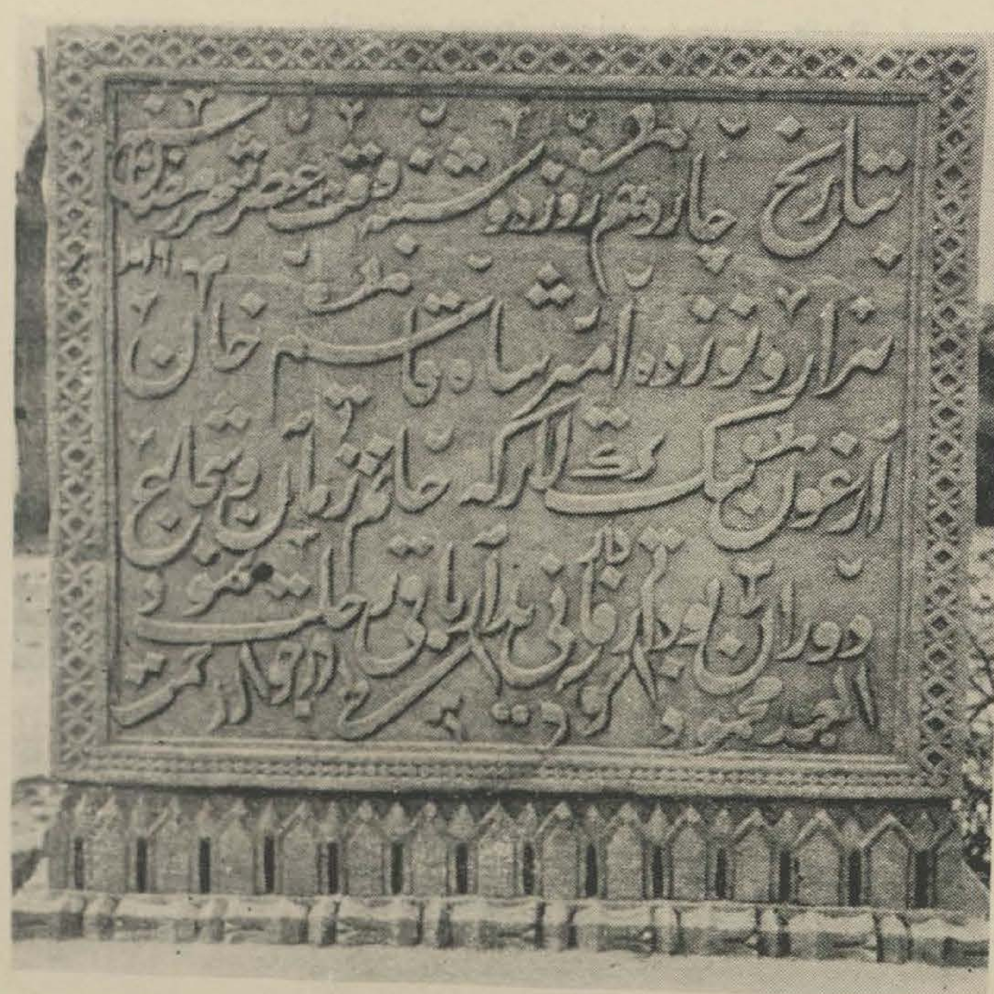
a. Cenotaph of the grave of Rafs Bega: view from South



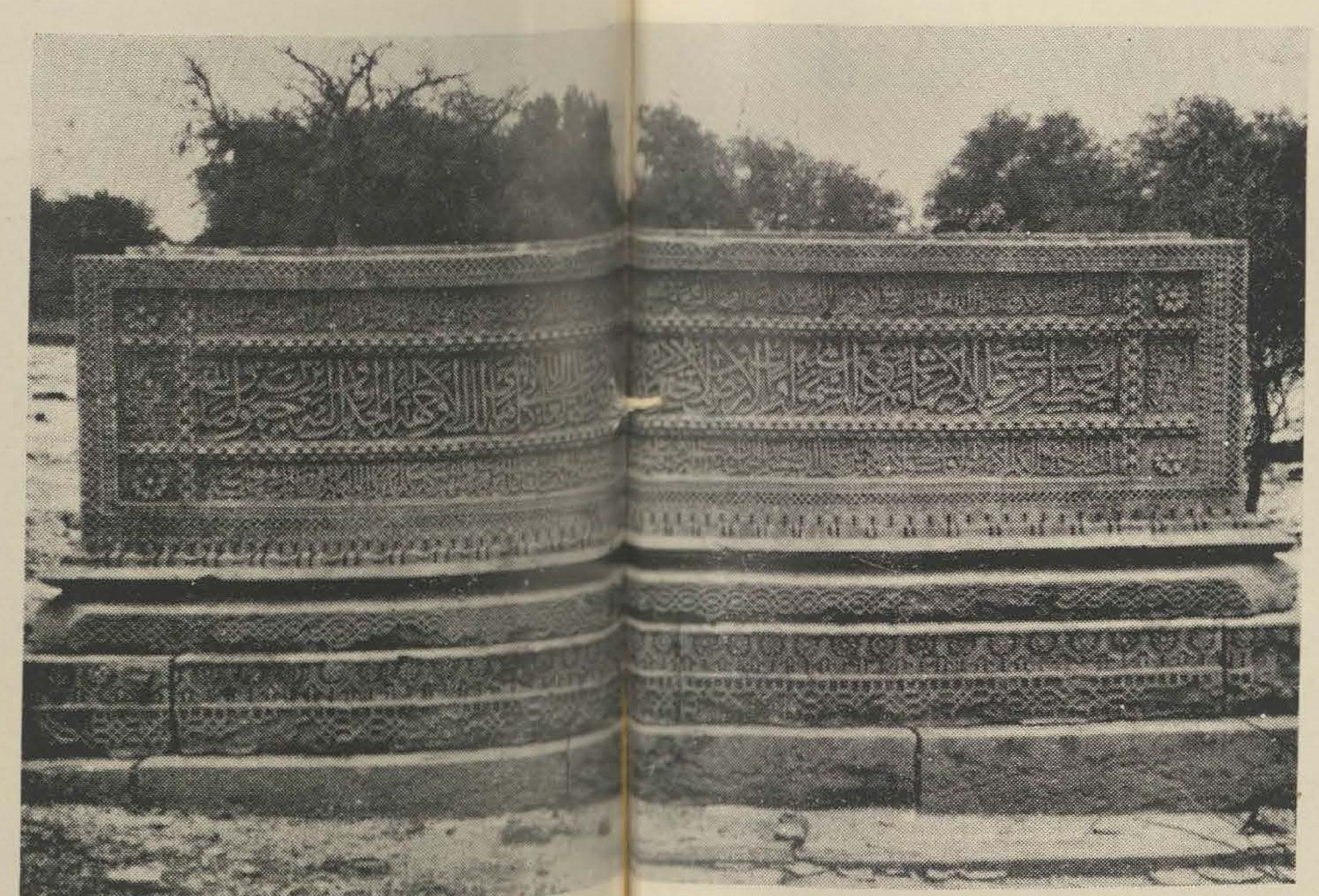
b. Cenotaph of grave No. VII: view from South.



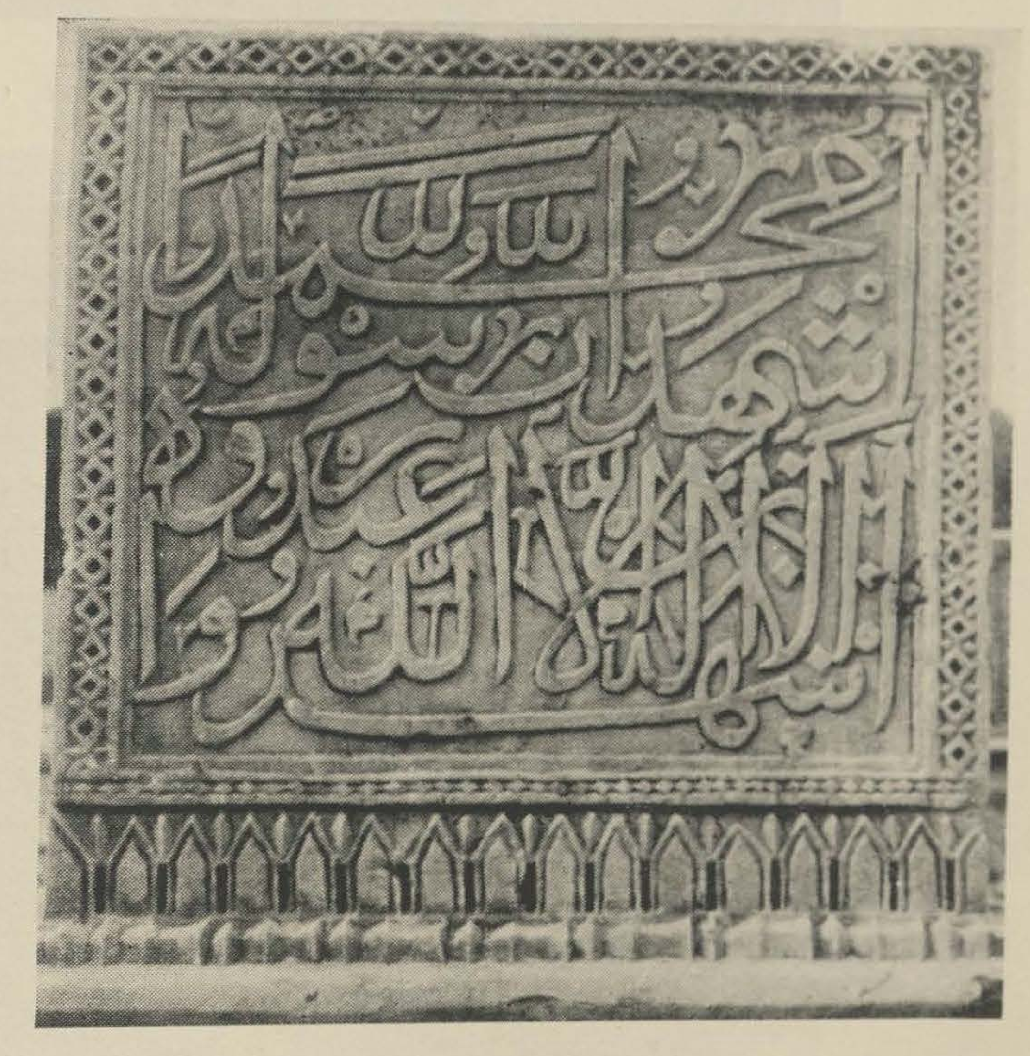
a. Cenotaph of the grave of Qasim Khan Zaman: the top.



b. The same: view from South.



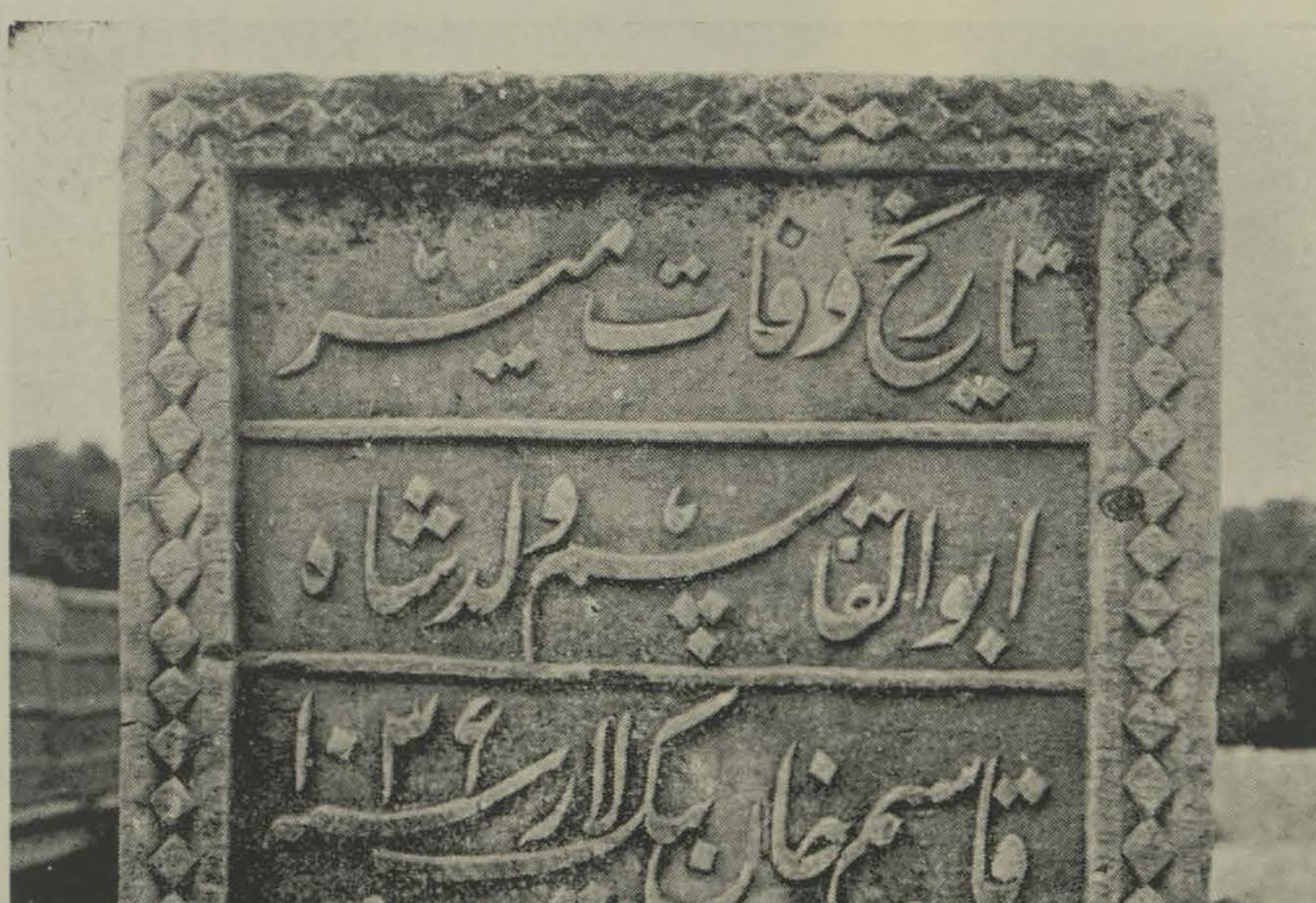
c. The same: view from East.



d. The same: view from North.



a. Grave No. IV. Cenotaph of the grave of Mir Sher Beg: view from South.



b. Grave No. V. Cenotaph of the grave of Mir Abu al-Qasim: view from South



a. Cenotaphs of graves No. XI and XII

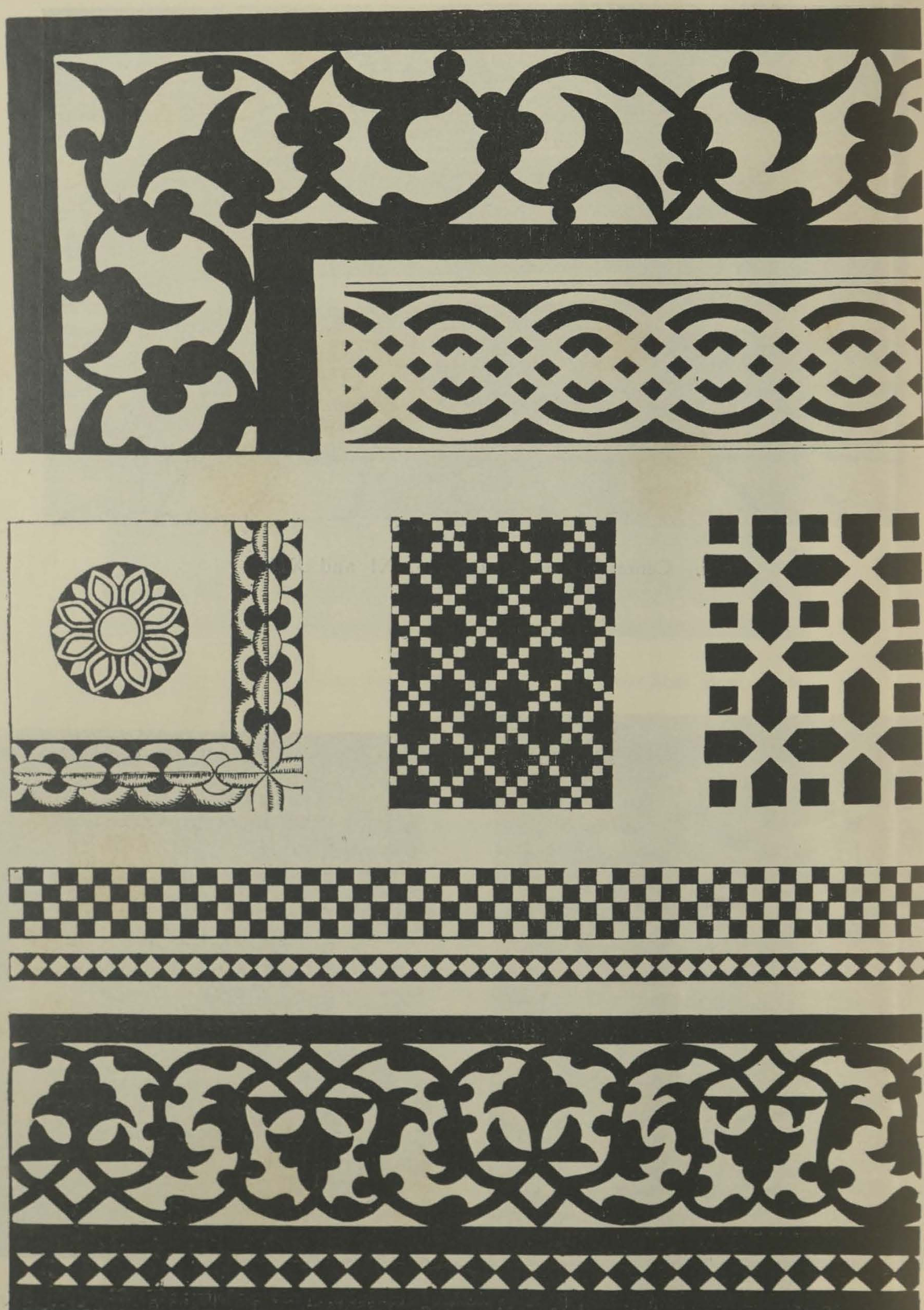


b. Cenotaph of the grave of Amir Sultan Beg: view from South.



c. Cenotaph of the grave of Mirza Jan Beg; view from South.

Plate LX



Decorative Stone Carvings on the graves of Beglars.

THE NECROPOLIS

A substantial area, measuring 450 feet by 340 feet, lying on the east of the main habitation of the village, is covered with historical graves and some other structures of religious nature. The main necropolis contains more than fifty graves of which twelve are of special interest, as they are crowned with stone cenotaphs decorated with Arabic and Persian inscriptions of the usual Thatta type. The cenotaphs are made of rectangular slabs of yellow sandstone and are arranged in three or four tiers superimposed one upon the other. The lower tiers are flat slabs with carved decoration on the exposed side, while the main top tiers have carving on all sides, floral, geometrical as well as inscriptional. The Persian inscriptions mainly record the name of the person buried and the date of his death. The surface has been divided into various registers and crotchets. The style of carving on these cenotaphs, their arrangement, their material etc., reminds us of the workmanship found on the cenotaphs of the graves lying at Makli Hill near Thatta.

A close study of these inscriptions and other decorations carved on these cenotaphs (Pl. LX), reveals many interesting facts. It appears that during those days, there must have been a sort of guild, probably located at Thatta, where calligraphists and stone carvers were busy in preparing carved cenotaphs for graves. The system must have been to carve the Quranic inscriptions on the appropriate surface of the cenotaphs and leave blank spaces to be filled later, with the name, the date of the death and other details of the person on whose grave the cenotaph was to be fixed. This is born out by two facts: First, the Quranic verses carved on these cenotaphs and their arrangement in crotchets and compartments are almost the same in all cases. This is particularly significant on the cenotaphs of the Beglars. Secondly, the poorer quality in the writing and carving of the Persian inscriptions shows that they are later additions in which the same care and precision has not been observed as in the case of the Arabic inscriptions and also shows that they have been executed by a calligraphist other than he who carved the Arabic inscriptions.

The following description of the inscriptions and other decorations carved on the cenotaphs of various graves has been arranged chronologically.

DESCRIPTION OF THE CENOTAPHS

Grave No. I

This is the grave of Sayyid Qasim Beglar, the founder of the family (Pl. LIV*a*.) In the usual style, it is crowned with a beautiful cenotaph measur-

ing 6 feet 2 inches by one foot 5 inches by one foot 5 inches constructed in four tiers of yellow sandstone. The second lower tier has a carved facing of interlaced tracery divided into two horizontal bands, the lower being a fret pattern and the upper, floral. The floral pattern consists of a row of small but full-blown eight-petalled lotus flowers in high relief, placed within a row of crestings, much of which is damaged. All four sides of the main cenotaph and its top possess inscriptions, both Quranic and non-Quranic. The two Persian inscriptions, giving the historical details, are carved on the northern and southern sides, while the other sides and the top have Quranic inscriptions. For this purpose, the surface has been divided into six large crotchets and six small compartments, separated by a chain of inter-twined circles, while the broad border all round has rows of alternately sunk chequers, a chain of diamond shape quaternaries and mouldings of lotus petals. Similarly, the base has two superimposed rows of lotus petals. The two upper and lower crotchets bear *surah* xvii of the Quran, while the central crotchets have the *ayat al-kursi*, carved in blod *naskh* characters. The smaller compartments on the corners have twelve-petalled lotus flowers with a boss in the centre. The two smaller compartments, between those having lotuses, possess the four attributes of *Allah* two in each, on one side and the name of the calligrapher Firuz b. Tayyar (?) on the right, and the date: Rajab al-Murajjab 990 (?) on the left. The top of the cenotaph has a similar arrangement in which verses of the Quran have been carved. A crown carved in high relief towards the head, takes the shape of a some what terifoil arch.

The text of the two Persian inscriptions is as under:—

(*a*) On the south, within a square sunk field with four full-blown twelve-petalled lotuses placed on the four corners and the usual decorative margins, the inscription is executed in two lines in bold *naskh.*[29] (Pl. LV b).

وفات یافت سیادت پناه حضرت مرحومی مغفوری
میر سید قاسم بیگ لار شهر تاریخ رمضان سنه ۹۵۰

Translation :

The death of the deceased and pardoned Mir Sayyid Qasim Beglar (occurred) in the month of Ramazan 950 A.H.

(*b*) On the north—the surface has been divided into nine compartments of various sizes. The corners have lotuses in bold relief while the other com-

29. The text of the inscription has been published by Sayyid Husamuddin Rashidi in *Chanesar Namah* vide Inscription No. 1, p. 69.

partments have interlaced tracery of alternately sunk chequers and fret work. The broad margin has a scheme of decoration similar to that on the other sides. The inscription in the central compartment is carved in six lines in *nasta'liq* characters[30]:—(Pl. LV c).

تاریخ مغفرت پناهی سلاله آل
طه و یسین امیر کبیر سید قاسم
بیگ لار ابن میر مرحومی
ابوکه بیک در شهر ربیع الاول
سنه نهصد و پنجاه و چهار از
دارفنا بدارالبقا رحلت نمود

Translation :

The death of the pardoned one, the chosen of the family of *Taha* and *Yasin* the great Amir Sayyid Qasim Beglar, son of the deceased Mir Abuka Beg, [who] passed away from this temporary world to that world of everylasting abode in the month of Rabi al-Awwal, 954 A.H.

Grave No. II

This is the grave of Rafs Bega daughter of Sultan Muqim Arghun who was the third son of Abul Qasim Khan Zaman. The stone cenotaph, 5 feet 7 inches by one foot one inch by one foot four inches, has the usual carved inscriptions on all sides arranged in traditional fashion. The northern, eastern and western sides and the top have Quranic verses (*Surah al-Tur*) in exquisite *naskh* script. The top has a terifoil arch motif towards the head within which is placed a full blown lotus. The southern side possesses the Persian inscription recording the name of the lady burid there and the date of her demise. The Persian inscription is carved in rough *nasta'liq* characters in six lines, probably the work of some local calligrapher or stonecarver. No contemporary or later historian or biographer has recorded information about the lady, who died in 1017 A.H./1609 A.D. The text of the inscription is as follows.[31] (Pl. LVIb).

30. The inscriptions record two different and very confusing dates of the death of Sayyid Qasim and different causes of death. The inscription at (a) above records the death due to martyrdom in Ramazan 950 A.H./ December 1543 A.D. while that at (b) says that he died a natural death in *Rabi al-Awwal* 954 A.H./April 1547 A.D. There is yet another date on the eastern side of the centotaph alongwith the name of the calligrapher which reads 990 A.H./1582 A.D.

31. The Persian text alongwith its photograph has been published by Rashidi in *Chanesar Namah* (inscription No. 6 p. 74) The date (7th) read by him does not seem to be correct.

تاریخ رحلت عفت و عصمت پناه
رفس بیکه (؟) بنت سلطان مقیم
ارغون بیگ لار روز یکشنبه
۱۰۱۷ از (؟) شانزده سال بوده که
رخت حیات رابمو کلان قضا
و قدر سپرده... شهر ذی‌الحجه-

Translation :

The date of the demise of the pious and sanctified lady, Rafs Bega, daughter of Sultan Muqim Arghun Beglar on *yakshamba* in the month of Zil Hajjah 1017 A.H./Saturday, March, 1609, A. D. when she was sixteen years of age. She gave her life to the divine angels according to the Decree of God.

Grave No. III

This is the grave of the second Beglar Chief, Amir Shah Qasim Khan. The stone cenotaph of the grave measuring 6 feet 8 inches by 1 foot 4½ inches by 1 foot 5 inches, has been carved elaborately in the same decorative scheme as that found on the grave of his father, except that on the north is carved a *Tughra* of the *Kalima* within a border made of quaternary diamonds (Pl. LVIIa). The *Tughra* has been carved in exquisite calligraphy by a calligraphist named Mahmud while the other two sides possess various stray verses of the Quran (Pl. LVIIc). The surface has been divided into twelve crotchets of equal size arranged in three lines superimposed on each other and six small compartments, three on each side. Those at the corners have sixteen-petalled full-blown lotuses and those at the centre, a fret motif. The crotchets have been divided by a chain made of intertwined circles carved in high relief. The margin has a band containing a diamond-shaped chain, while the bottom of the cenotaph possesses foliage of lotus petals.

The Persian inscription, recording historical details, has been carved on the south within the broad border of the decorative scheme, similar to those on the other sides. The inscription, executed in chaste *nasta'liq* in five lines, is rather unusually precise in recording the date, day and time of the sad demise. It reads as under:—

بتاریخ چهاردهم روز دو شنبه وقت عصر شهر رمضان ۱۰۱۹
هزار و نوزده امیر شاه قاسم خان
ارغون بیگلار که حاتم زمان و شجاع
دوران بود از دارفانی بدار باقی رحلت نمود
(و) درجوار رحمت الهی آسود العبد محمود

Translation :

On Monday, the 14th of the month of Ramazan 1019 A.H. in the afternoon. Amir Shah Qasim Khan Arghun Beglar, who was the Hatim of his time and the bravest of his days, passed away from this temporary abode to that everlasting world [written by] Mahmud.

The surface at the top has been divided into compartments of varying sizes. The central compartments, six in number, have different verses of the Quran carved in bold *naskh* characters, while the margin and the rectangular space at the top and bottom have a line of twelve Persian couplets arranged in crotchets imploring the visitor to pray to God for the salvation of the deceased (Pl. LVIIa).

Grave No. IV

This is the grave of Mir Sher Beg son of Mir Ali Sher Arghun who, according to the inscription on the cenotaph measuring 5 feet 2 inches by one foot 2½ inches and one foot two inches, was killed on the 11th Ramazan 1020 A.H. in battle.[32] The northern side of the cenotaph has an exquisite *tughra* of the *Kalima* carved in bold relief within a double broad margin of flat blank space and a chain of diamonds placed within those flat lines; while the east and west side have twelve (six on each side) crotchets and twelve small (three on each side of the crotchets) compartments. The corner compartments have the usual lotuses and the compartments in between have geometric patterns. The margin has the chain of diamonds all round except the bottom which has foliage of lotus petals. The crotchets on the two sides are filled with Quranic verses from the *surah al-Mulk* and the top with *surah al-Nur* carved in bold *naskh* characters. The Persian inscription carved on the south side in bold *nasta'liq* reads as under[33]:—(Pl. LVIIIa).

تاریخ رحلت نمود میر شیر بیگ [بن]
میر علیشیر ارغون روز دو شنبه وقت
دوپاس یازدهم شهر رمضان
المبارک ۱۰۲۰ درجنگ
بمرتبه شهادت رسید

Translation :

Mir Sher Beg, son of Mir Ali Sher Arghun, died on Monday in afternoon on the 11th Ramazan, 1020 A.H. He was killed on the battlefield and achieved the exalted place of martyrdom.

32. He was the son-in-law of Shah Qasim Khan. For details of the military engagement in which Sher Beg was killed, *see* Qane, *op. cit.* vol. iii, p. 86

33. Published by Husam ud-Din Rashidi, *op. cit.* p. 73

Grave No. V

This is the grave of Mir Abul Qasim, son of Shah Qasim Khan Beglar, who died in 1034 A.H. The east, west and the top of the cenotaph measuring 5 feet 10½ inches by 1 foot 3½ inches by 1 foot 3½ inches, possess the usual arrangement of crotchets in which the *ayat al-Kursi*, *surah al-Mulk* and a few other *surahs* from the Quran have been carved in bold *naskh* characters within a border of triangles arranged in rows. The cortchets have been divided by means of a chain made of intertwined circles carved in bold relief. The four corner-compartments have the usual twelve-petalled lotuses and the compartments in between them bear floral motifs. The Persian inscription (Pl. LVIII b) on the south is carved in bold *nasta'liq* in three lines within a border of diamonds arranged in a chain. The text reads:—

تاریخ وفات میر
ابوالقاسم ولد شاه
قاسم خان بیگ لار ۱۰۳۴

Translation :

The date of the demise of Mir Abdul Qasim son of Shah Qasim Khan Beglar—1034 A.H.

Grave No. VI

This is the grave of Amir Shukr Beg, son of Sultan Qasim. The east and west sides of the cenotaph, measuring five feet two inches by one foot two inches by one foot two inches, have the arrangements of six crotchets and three small compartments on each side. The main crotchets have the *surah al-Mulk* and the *ayat al-kursi* while the four corner-compartments have the twelve-petalled lotuses and the central ones some attributes of God. The bottom and the side margins have foliage of lotus petals. The northern side of the squares are superimposed on each other by means of a chain of intertwined circles. The four corner-squares have lotus flowers while the others possess Quranic verses. The southern side has also the same treatment except that the Persian inscription carved in *naskh* is arranged as under:—

lotus flower	وفات یافت سید	lotus flower
مرحوم و مغفور	ابن سلطان قاسم	امیر شکر بیگ
lotus flower	ارغون بیگ لارسنه	lotus flower

The margin has been decorated with broad chevrons. The top of the cenotaph has been divided into various compartments of different sizes within a border of chevrons and has been filled with verses from the Quran. The top of the central compartment, towards the head, has a crown consisting of a teri-foil arch with a full blown lotus in the centre.

Grave No. VII

This is the grave of some un-identifiable religious personage who, according to the Persian inscription carved in indifferent *nasta'liq*, died in the city of Lahore on Monday the 22nd Rajab 1102 A.H./21st April 1691 A.D. (Pl. LVI b). It is interesting to note that the person, who must have been an important personality, died at Lahore and was brought all the way to this place to be buried here. Another interesting feature to be noticed is the comparatively unusual nature of the floral decoration and the arrangement of the inscriptions both Quranic and non-Quranic on the cenotaph. The monolith of the cenotaph measuring 5 feet 1½ inches by 1 foot 2 inches by 1 foot 2 inches, possesses verses from the Quran carved on the top, east and west sides in bold *naskh* characters within a broad margin decorated with a tracery of floral pattern. The lower tier, on which the cenotaph is placed, is decorated with lotus foliage. The north side has a *tughra* of *Bis-millah* and the Kalimah carved in bold but indifferent letters on a slightly sunk field within a broad flat border. The south side has two Persian inscriptions carved in *nasta'liq*. The square central space has the following main inscription in four lines:

تاریخ رحلت کرد از دارفنا
بدار بقا سید ناته باسی [؟] در
بلده لاهور روز دو شنبه وقت چاشت
۲۲ شهر رجب المرحب ۱۱۰۲

Translation :

The date of the death of......who passed away from this world to the eternal abode (who died) in the city of Lahore on Monday the 22nd Rajab 1102 A.H. at the middle hours between the sunrise and the meridian.

On the broad margin within double-lined stars at the four corners, is carved the following *ruba'i* of Umar Khayyam:-

ابریق مئی مرا شکستی ربی — برمن درعیش را به بستی ربی
برخاک بریختی مئی ناب مرا — خاکم بدهن مگر تو مستی ربی

Grave No. VIII

This is the grave of Mirza Beg son of Mirza Jan Beg Arghun who died in 1124 A.H./1712 A.D. The monolith of the cenotaph measuring 5 feet 5 inches by 1 foot 4½ inches by 1 foot 9 inches, now damaged and broken into two pieces, has an exquisite specimen of Quranic calligraphy. The *surah al-Mulk* and some other verses have been carved in elegent *naskh*. The whole surface on the top, east and west has been divided into various crotchets and compartments. There are nine crotchets in three lines superimposed one upon the other on all sides, and three small square compartments of which the corner ones have 15 petalled full-blown lotuses while the central one has been filled with a fret work design. The crotchets and compartments have been divided by a chain made of intertwined circles. The border has broad running lines of foliage and chevrons at the bottom. The outer space of the lower tier on which the monolith is placed has a quadruplex or quadrant diamonds. The north side is carved with a *tughra* of the *Kalimah* within a border with a foliage decoration, while the south side has the Persian inscription, in fair *nasta'liq*, in three lines within a broad border of three rows of quadrant diamonds, the right side of which has been left unfinished (Pl. LIX c):—

بتاریخ روز جمعه بیست و چهارم صفر
مرزا بیگ مرحوم ابن مرزا جان ارغون
وفات یافت ۱۱۲۴

Translation :

On Friday the 24th Safar 1124 A.H. Mirza Beg son of Mirza Jan Beg Arghun died.

Grave No. IX

This is the grave of the other son of Mirza Jan Beg Arghun, Amir Sultan Beg, whose date of death is indistinct in the inscription. The monolith of the cenotaph, measuring 5 feet 10 inches by 1 foot 2 inches by 1 foot 2 inches, is now broken into two pieces. The top and the east and west sides possess Quranic verses carved in exquisite *naskh* in one horizontal line within a broad flat margin. The east and west sides have the *ayat al Kursi* with *Bismillah* while the north side has a bold *tughra* of هوالکریم one of the ninety-nine attributes of Allah, carved in very bold letters. On the south is a Persian inscription carved in two lines of intertwined *naskh* (Pl. LIX b).

تاریخ وفات امیر سلطان بیگ
ابن امیر مرزا بیگ ارغون ۰۰۰ه [؟]

Graves No. X, XI and XII

These three graves have beautifully carved cenotaphs with Quranic verses carved in the usual manner. Graves XI and XII are of children as judged from the sizes of the cenotaphs (Pl. LIXa). The north and south sides of these three graves are either left blank or have been filled with lotuses. The sizes of these cenotaphs are as under:—

Grave No. X : 5 feet 6 inches by 1 foot 3½ inches by 1 foot 4 inches

Grave No. XI : 2 feet 3½ inches by 8½ inches by 7½ inches

Grave No. XII : 4 feet 2 inches by 9 inches by 1 foot 2 inches

REPORT ON THE NATIONAL MUSEUM OF PAKISTAN* FOR 1969-70

[Plate LXI]

THE inauguration of the National Museum of Pakistan in its new building at Karachi in February, 1970 by the President of Pakistan was a major event in the world of museums and certainly a land-mark on the cultural horizon of Pakistan. From an extremely modest beginning in 1951, this Museum has now developed into an important National Institution. The main objectives in its re-organization have been:—

(1) Service to the student.
(2) Service to the community.
(3) Service to the scholar.

Apparently, these are the basic services which every modern museum must provide. But, in the case of Pakistan, a developing country as it is, there were many difficulties to be encountered. Besides the paucity of funds and lack of professional know-how, even the public support was not available to develop it on proper lines. It was thus an up-hill task indeed and required much more than simple efforts. The results, however, achieved have evoked a highly encouraging remark from a distinguished museologist, Dr. Grace Morley as follows:-

> "This instructive intention, so dearly conceived and executed, makes it a pioneer of its type".

The National Museum of Pakistan in its reorganized form, is now a museum with a purpose where fresh ideas and new techniques have been employed but not at the cost of the principles of museology nor to the detriment of the scholar. The main Exhibition Galleries of the museum are located on the first floor of the building and present a complete cross section of Pakistan's cultural heritage from the Stone Age down to the late Moghul period arranged in chronological sequence. The objects are displayed in specially designed show-cases and panels and are fully labelled. Charts, maps and blown-up coloured transparencies provide further back-ground information about them and complete the story.

*Based on the notes supplied by the Superintendent, National Museum of Pakistan.

But this is not all, keeping in mind that the majority of the people visiting the museum are illiterate, efforts have been made to provide audo-visual explanations to the various cultures presented there. This has been achieved by reconstructing the life as it existed in the various phases of Pakistan's history. Through a recording system, original sound and light effects have been added to the 'Dioramas' with a commentary in the local language which is highly interesting and informative. But, before the lay visitor reaches the main Exhibition Galleries on the first floor, he passes through a large Foyer. It is here that his interest must be captured and he must be provided with a sense of belonging to his National Museum. For this purpose, the Foyer which in fact, is a Reception Hall and not a part of the regular museum galleries, has been utilized for the display of certain authentic records, documents and other materials which are close to the heart of the people. These belong to the Freedom Movement and alongwith them in two large panels facing the visitor are also exhibited life size metallic busts of the heroes of the Movement. It is here that while the visotr waits to get the information about the Museum or buys its publications and souvenirs from the Reception and Sales Counter, he finds himself surrounded by the history which has an immense appeal to him. The atmosphere thus created invokes his personal interest in the museum and he is tempted to know more about its contents which reflect his own past and the present. After all, it is the cultural relics of a country which are the virtual foundations for advancement in corporate life. As achievements acquired after prolonged struggle with nature and environment, they manifest the store of creative intelligence, initiative, perseverance and integrity that have gone into the making of a particular national character. This, as already mentioned, is also explained through audovisual methods which sustain the interest of the visitor as he proceeds from Gallery to Gallery.

The present re-organized finish of the National Museum of Pakistan is the result of the efforts of its devoted incharge, Mr. S.A. Naqvi, T.I. and his team of workers about whom the President of Pakistan was pleased to observe at the time of its inauguration "to me they are a people resolved to a mission which is a kind of silent crusade against ignorance and illiteracy. Their calm demeanor is camouflaged on their articulate thoughts, engaged in synthesising tenable theories from incoherent evidence and in interpreting the enigmas of the natural and human history into palpable facts to broaden the horizon of our knowledge. They can be classed with scientists, not those engaged in making weapons of destruction but those engaged in bringing the world closer to the Utopian image. Truly they deserve our thanks".

Various messages received on the occasion of the opening of the museum in its new building, included some from renowned international personalities like H. E. Mons Rene Maheu, Director General, UNESCO ; Sir John Wolfenden, Director, British Museum, London; Mr. Dillon Ripley, Smithsonian Institution (National Museum of the U.S.A.), Washington; Sir Mortimer Wheeler, British Academy, London; and Prof. Andre' Parrot, Director of Musee du Louvre, Paris. The Director General of the UNESCO in his message, conveyed "On the occasion of the inauguration of the National Museum in Karachi by His Excellency the President of Pakistan, I extend my warm congratulations on an important event in the cultural life of the nation. The National Museum will contribute to the preservation of Pakistan's cultural heritage and give her people the opportunity both to know its past cultural achievements and to discover its future prospects. Please convey my best wishes for the success of the Museum's work to the Pakistan authorities and to the staff to which its exciting future is entrusted". The Director of the British Museum, London expressed "On a great occasion of your opening ceremony, your colleagues of the British Museum in London send you their congratulations on all that you have achieved already and their warmest good wishes for a still more glorious future in your new home". The Director of the National Museum of the United States of America communicated "Greetings and congratulations from the Smithsonian Institution to National Museum of Pakistan on the occasion of the opening of the new Building. Descriptions of the new setting for the national treasures promise exciting aesthetic and intellectural experiences for Museum visitors, and a great step forward in Museum Exhibition and Interpretation. Your colleagues in America send you their best wishes for great success and their confidence that the National Museum of Pakistan will continue to pioneer in using great collections in the service of ideals and to the benefit of all people sincerely."

Museum's Educational Service

As to the educational activities of the Museum for the young student, an Education Officer with a full-fledged Section and a well equipped auditorium at his disposal, looks after it. Besides conducted tours, illustrated lectures, film-shows etc., special programmes are also arranged for the students keeping in view their curricula of studies and in collaboration with the Educational Authorities. Lesson exhbits for circulation among the schools and colleges are also arranged by this Section. Groups of students from more than 90 schools and colleges participated in the programme.

Research work and publications

Facilities were provided to a number of research scholars both from the universities within Pakistan and abroad. An American Scholar from Michigan University was given all assistance in his research work on the Aligarh Movement. He consulted various manuscripts and documents in the reserves of the Museum. Mr. S.A. Naqvi, T.I., produced a booklet on the National Museum of Pakistan and contributed a learned article on Taxila for publication in the Courier, Paris. His book on "1400 years of Quranic Calligraphy" is being published by the Quran Council. Mr. M. Ishtiaq Khan, Mr. S.M. Ashfaque and Mrs. Pervin T. Nasir contributed articles on the "Tomb of Jam Nizamuddin", "Banbhore Mosque " and " Early Muslim Coins from Banbhore" respectively.

Special Exhibitions and Extension Lectures

The National Museum of Pakistan observed the Museum Week sponsored by ICOM, in its new premises which was formally inaugurated by Mr. Mumtaz Hasan, S.Pk., President of the Museums Association of Pakistan. In this connection, a Special Exhibition of Holy Quran was organized. Rare manuscripts of about 200 Holy Quran were displayed. Other special exhibitions organized by the National Museum of Pakistan during the period under report, included an Exhibition of Photographic panels depicting the "Educational activities in the museums of the U.K.", "Life and Works of Ghalib" and "Historical documents relating to the struggle for independence". Amongst those invited for extension lectures were distinguished personalities like Dr. Grace Morley, Head of the ICOM Regional Agency for Asia, Dr. Miss K. Kenyan, Professor of Archaeology, University of Oxford, Professor G. Tucci, President of ISMEO, Rome and Professor Gankowsky of the Oriental Institute, Academy of Sciences, Moscow.

International Conferences

Mr. S.A. Naqvi, Superintendent, National Museum of Pakistan was invited by the UNESCO as an Expert to participate in the International Seminar on Central Asian studies held at Tashkent, U.S.S.R. He was also invited as a Specialist by ICOM in Paris to formulate the ethical rules for the acquisition of antiquities and works of art. In April, 1970. Mr. Naqvi lead a delegation from Pakistan to the International Conference convened by the UNESCO in Paris to finalize a "Draft Convention on the Control of Illicit Trade in National Treasures".

New Acquisitions

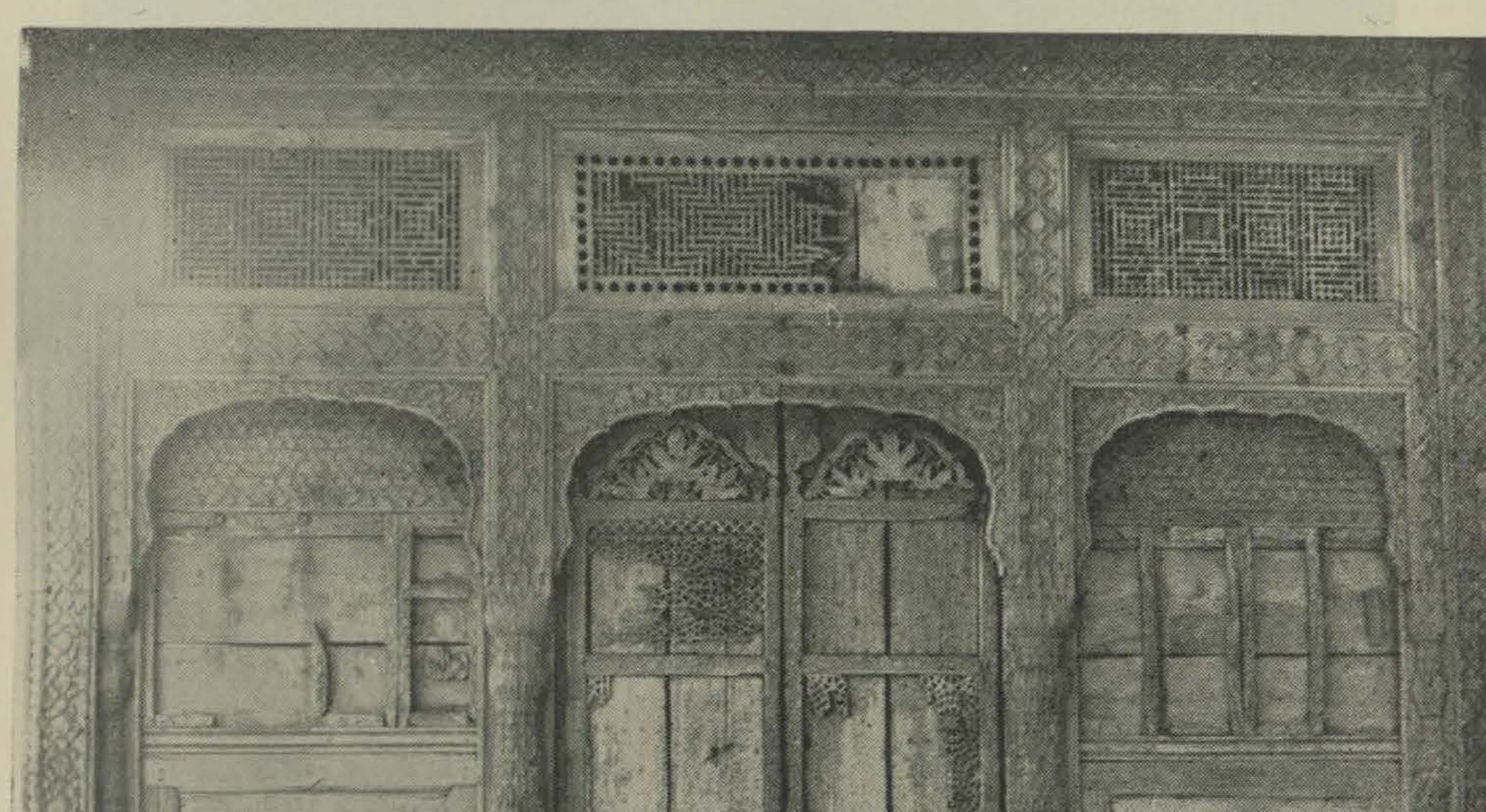
The Advisory Council, National Museum of Pakistan held several meetings during the year under review to consider the purchase of antiquities and works of art. The new acquisitions made on the recommendation of the Council, have considerably enriched the collections of the Museum. Following are some of the important objects acquired during, the period:—

Manuscripts

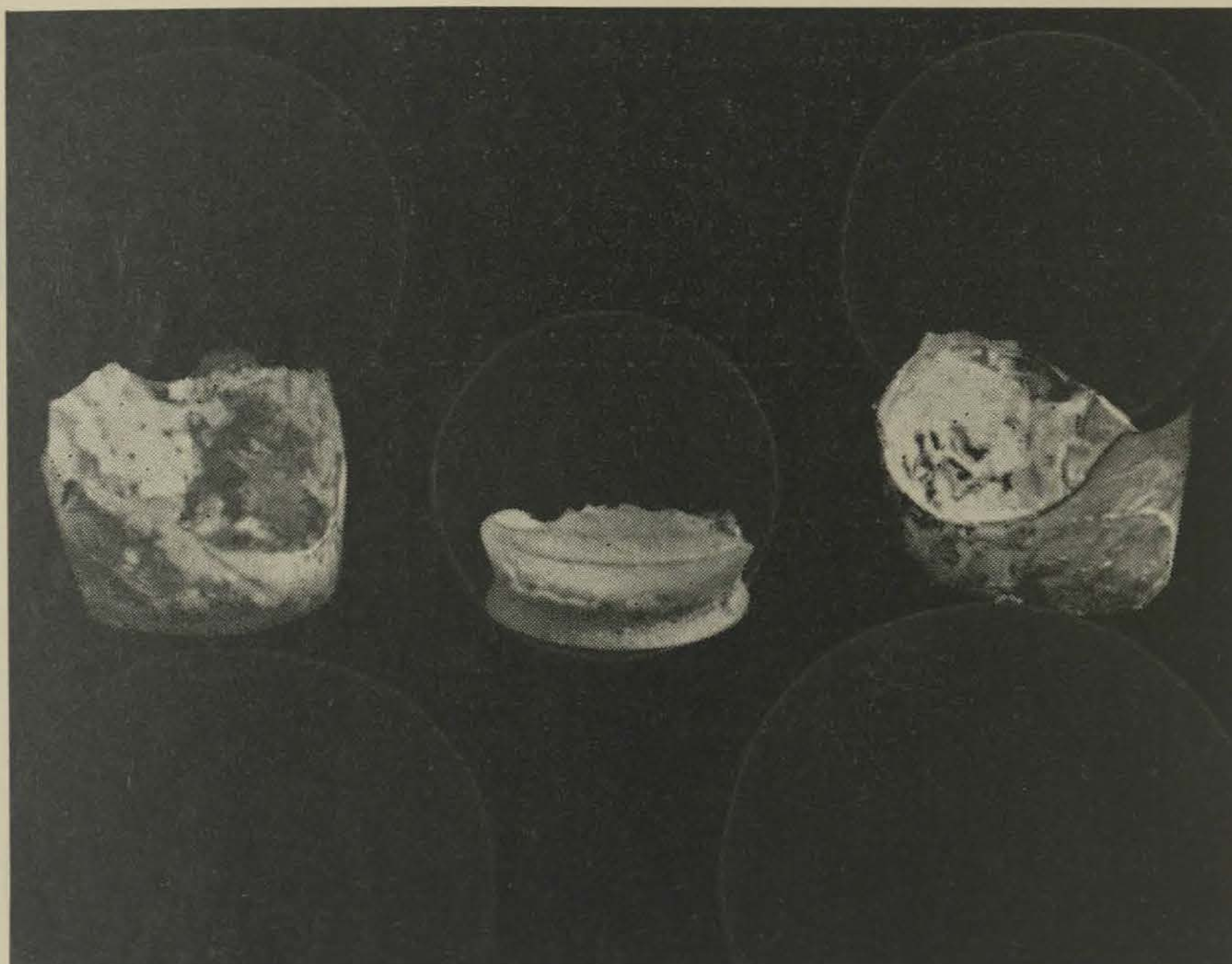
1. Hamail Sharif transcribed by Hafiz Abd al-Ghafur in 812 A.H. at Lahore.
2. Sab'a Sayyara by Zulali in Persian dated 1080 A.H.
3. Talfiq al-Kitab by Kh. Muhammad Murad dated 1052 A.H.
4. Tarikh-i-Musavi dated 984 A.H.
5. Rauzat al-Ahbab by Jamal al-Hasaini dated 999 A.H.
6. Tuzuk-i-Wala Jahi.
7. Tarikh-i-Iraq.
8. Silk al-Suluk by Zia Nakhshabi dated 1003 A.H.
9. Sharh-i-Fusus al-Hikam by Shaikh Muhibb-Allah Allahabadi, transcribed by Abd al-Latif in 1306 A.H.
10. Surah al-Ikhlas written on a rice.
11. Panj Ganj (Persian) by Amir Khusrau, transcribed in 892 A.H./893 A.H.
12. Shara-i-al-Islam, a work on Shafii Jurisprudence, transcribed by Kaiqbad in 978 A.H. *A seal impression on it reads as **Fidvi** Alamgir Badshah Ghazi.*
13. Gul-i-Bastan in Persian in the style of Bustan of Saadi Shirzai by Bakhsh Allah Nami Ibn-i-Maulavi Amrullah of Shahjahanabad.
14. Al-Itqan fi 'Ulum al-Quran in Arabic by Jalal al-Din al-Suyuti, transcribed by Muhammad Wali al-Din in 1277 A.H.
15. A religious book in Arabic dealing with the ideology of Bohra Sect. *Several seal impressions are found on the copy.*
16. Rauzat-al-Safa in Persian by Mir Khwand.
17. Mirat-al-Alam in Persian by Bakhtawar Khan. ?
18. Afkar-i-Akhtar, i.e., the fourth Diwan of Akhtar.
19. A collection of Farmans of the Mughal Emperors.
20. Darya-i-Latafat by Insha Allah Khan Insha.



a. Copper seals of Late Moghul period.



b. A decorated carved door.



a. Glass objects from Banbhore before restoration



b. The same after restoration

21. An anonymous manuscript in Persian *which bears the seal impression of Nur al-Din Jahangir dated* 1028 *A.H.*
22. Asma al-Rijal of Mishkwat Sharif.
23. Diwan-i-Aftab i.e., Diwan of Shah Alam, the Mughal Emperor.
24. Kulliyat-i-Munawwar in Persian.
25. Munshaat-i-A'zam by Muhammad A'zam Khartalli.
26. Shahnamah of Muruwwat, a Mukhammas in Persian, transcribed by Hasan Muhammad of 'Adilgarh in 1280 A.H.
27. Nuzhat al-Arwah by Husain b. 'Alim b. Abi al-Hasan al-Husain with its Persian commentary by Abd al-Wahid Ibrahim.
28. Wafayat al-Ayan in Arabic by Ibn-i-Khallikan-seems to be a contemporary copy.

Other Objects

1. A dagger with a bone handle and a white metal cover.
2. A sword of the Government of India. The blade is decorated with floral designs in golden colour. This sword was presented by the Indian Government to Mr. Abdur Rahim Khan, Inspector of Thaggi and Dacaiti Department, in recognition of his services at Multan.
3. 12 billon coins of Muhammad b. Sam.
4. 14 billon coins of Iltutmish.
5. 300 billon coins of Taj al-Din Yeldiz.
6. One copper seal of Qazi Mukarram dated 1121 A.H.
7. One copper seal of Syed Ali Akbar dated 1140 A.H.
8. One copper coin of Kanishka.
9. 4 coins of Jaswant Singh.
10. 2 coins of Indo-Greek Period.
11. 2 coins of Sikh Period.

USE OF SYNTHETIC RESINS

For

THE RESTORATION OF GLASS OBJECTS

By

Ch. Rehmatullah

[Plate LXII]

The discovery of synthetic resins has made it possible to carry out with great precision not only simple repairs, but also to preserve and reproduce the finest engravings in antique glass objects using quick hardening transparent resins and elastic moulding materials. A large number of glass objects recovered from Banbhore were broken and decayed. A small number of semi complete glass objects required restoration and replacement of missing portions and a suitable material for this purpose was sought. The use of gypsum was straight away discarded in view of its serious disadvantages. Other materials such as wax, celluloid and methyl mathacrylate in sheet form were tried but the results were not satisfactory. Finally a German product namely Technovit 4004A was selected for the purpose. This material contains a special accelerator, which is distributed in a powdered polymer and liquid monomer. When the two components are mixed, the polymerization reaction starts in about 5-10 minutes and proceeds at room temperature. The reaction being slightly exothermic the temperature rises during the process. Technovit 4012A is the most suitable grade for repairs and restoration of opaque glass.

The proportions of liqued and powder can be varied between 5: 2½ and 5:3, but it is advisable to work with the smallest amount of liquid. If the resin is to be cast in greater thickness, it can be done by pouring the material in a number of layers, which will adhere completely to each other. If the glass to be reproduced is coloured, the same colour can be produced by adding a particular pigment in the resin.

Moulding is one of the most important stages of the process and the success of the results will depend on the quality of the mould. The moulding material should have the following properties:—

1. It must reproduce all the finest details on the surface of original glass. The moulding material should be elastic and it must be readily removable from the original.
2. It must set at the lowest possible temperature as the ancient glass may not be able to withstand the elevated temperature.
3. It should show the slightest possible shinkage.
4. It must withstand the heat of polymerization of the resin to be used for repairing without undergoing any deformation.

The most recently introduced moulding material namely Silicone rubber, having the above properties, is now available. It consists of two components. One is a white liquid and the other is a liquid catalyst which controls the setting time varying from one minute to 24 hours. It is not desirable to choose a short setting time as it would be difficult to manupulate the cold setting silastomer. The silicone rubber, being a viscous liquid, often contains air bubbles and it is essential to eliminate these prior to its use. This is done by subjecting it to vacuum for 3 to 5 minutes.

In the case of small repairs it is sufficient to make a temporary mould of dental wax, having an isolating layer of polyvinyl acetate. If there are undercut parts, it is necessary to form an elastic mass, which is hardened to set into position in the area to be repaird, taking care it sets correctly so that the liquid resin does not flow out. The photographs of two glass objects from Banbhore showing their position before and after treatment is the clear instance of achievements of synthetic resins (Pl. LXIa & b). The chemical analysis of a glass sample from Banbhore museum is given below:—

Sio_2 = 71.91%	Alo_{23} = 3.02
Feo_{23} = 0.46	Cao = 10.80
Mgo = 1.50	Nao_2 = 11.47
Ko_2 = 0.75	Boron = Nil
Cobalt = Traces.	

More work is required to authenticate the source of origin of the raw materials, which is important to determine if the glass was imported or manufactured locally.